
GENERAL VIEW
OF THE
AGRICULTURE
OF THE COUNTY OF
LINCOLN.

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GENERAL VIEW
OF THE
AGRICULTURE
OF THE COUNTY OF
LINCOLN,

WITH OBSERVATIONS ON THE MEANS OF ITS IMPROVEMENT.

BY THOMAS STONE,

LAND-SURVEYOR, GRAY'S INN, LONDON.

DRAWN UP FOR THE CONSIDERATION OF THE BOARD OF AGRICULTURE
AND INTERNAL IMPROVEMENT.

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LONDON:
PRINTED BY JOHN NICHOLS.
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TO THE READER.

IT is requested that this paper, may be returned to the Board of Agriculture, at its office in London, with any additional remarks and observations which may occur on the perusal, *written on the margin*, as soon as may be convenient.

It is hardly necessary to add, that this report, is, at present, printed and circulated, for the purpose merely of procuring farther information, respecting the husbandry of this district, and of enabling every one, to contribute his mite, to the improvement of the country.

The Board has adopted the same plan, in regard to all the other counties in the united kingdom; and will be happy to give every assistance in its power, to any person who may be desirous of improving his breed of cattle, sheep, &c. or of trying any useful experiment in husbandry:

LONDON, FEB. 1794.

TO THE READER.

The present edition of this report, may be retained to the Board of Agriculture, and the other departments of the Government, and the public, and the press, and the people, and the world, and the universe, and the God of the universe.

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INTRODUCTION.

CONFORMABLY to the desire of the Board of Agriculture, communicated to me by Sir JOHN SINCLAIR, its President, I have undertaken to describe, in as concise terms as the extent of so interesting a district will admit of, the present state of the agriculture of the county of LINCOLN. In the progress of which design, should any of my statements seemingly bear too hard upon the conduct or management of particular individuals, it is not intended by me as any personal reflexion upon them. The faithful execution of the important business committed to my charge, must, at any rate, supersede every other consideration: And in whatever instances I may commit errors, from the vast extent of the county under review, or from other circumstances, the subject (from the plan so happily adopted by the Board, of circulating these reports previous to their being published) lies open to after-discussion, correction, and improvement. It must occur, also, to the mind of every person of observation and candour, that the business of a reformer is an odious task, and attended with innumerable difficulties to execute it to advantage, when even a single object is in view; but becomes still more arduous, when a variety of points are to come under discussion.

Every country has its excellences and defects, as well in the inherent qualities of its soil, as in the manners, customs, and modes of management of its inhabitants. And it behoves those persons, whose province it is, whether as proprietors, agents, stewards, or otherwise, to correct mismanagement and existing abuses, in any particular parish or district,—to be well ascertained of the practicability, and the proba-

ble advantages, to be derived from subverting or altering any such abuses, before they set out upon the measure. If that point be not strictly attended to, any miscarriage necessarily tends to bring a very unfortunate degree of discredit upon many other procedures, the success of which would be certain; thereby casting a damp upon the progress and the spirit of improvement.—It is no less necessary to examine strictly into the implements of husbandry, and to compare them with their uses, that no advantages may be overlooked, and a less applicable sort substituted for a better: Such circumstances have happened, where a violent zeal for reformation has ran before every other consideration. On the other hand it is to be observed, that every occupier of land, whose knowledge and pursuits have been confined to any given parish or district, has formed to himself an idea of that mode of management, upon the soil he occupies, which appears to him the utmost point of perfection; and he pursues it in a more or less direct path, in proportion as his capital, his permanency in the situation, and a variety of indirect views, will allow him. When any question shall arise upon the annual value of such his occupation, he does not scruple to stand up with confidence and assert, (what he verily believes to be true), that he knows the value of it better than any other man; he has sown and reaped upon it; he has seen it in every season for a series of years:—And the plausibility of such assertions very frequently have weight, with persons of great good sense and abundant knowledge of the world. In vain might any person, who has made agriculture his particular study,—come forth to inform him, that his mode of managing his farm tends to continue the soil weak and foul; that he too often ploughs it, and crops it with white grain: That meliorating crops should be interwoven therewith, and that it should be laid down with the *first* crop of corn, sowing grass seeds next after a fallow, and turnips, for two or three years: That lime would be a considerable

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improvement upon the soil, which perhaps is cheap, and at hand : That a considerable portion of meadow land might be flooded at pleasure, according to the Somersetshire plan of making water meadows : that upon searching into the bowels of the earth, there is a probability of finding marle, or clay, which would greatly tend to fertilize the surface, if judiciously laid upon it, together with innumerable other improvements which might be pointed out: whilst ancient prejudices remain, the most convincing arguments are ineffectual. It is example, and the imitation of it enforced by gentlemen of landed property, in the leases they grant, and that only, that can bring about a radical cure; nevertheless, it often occurs, that speculative, and even practical men, are misled, and mistake appearances. The soils which appear most familiar in conversation, or in treatises, on husbandry, are clay, strong loam, mixed soil, light loam, and sand, and the different degrees of mixture of the extreme heavy, and extreme light, being clay and sand, with the different sorts of stones, pebbles, and soil, which arise from the bodies of putrified and decayed roots, exfoliations, and deposits of vegetables, plants, and manure, comprehend all the soils in the united kingdoms, and it is the discrimination of the different sorts and degrees of mixture of them, upon which the great hinge of transplanting as it were, any particular mode of culture from one county to another, under the idea of similar soils requiring and admitting of similar management, depend. Besides, it must not be forgotten, that I have now only alluded to the surface, attention should be equally paid to the nature of the strata of soil, which lie immediately under that, which is in common use for cultivation of grain and vegetables, on this depends, in a great degree, its fertility, for if the stratum immediately under the superficial one, is of a strong retentive nature, the vegetation will be checked in wet seasons by its coldness, and

and the mucilage necessary for the food of the crop will be too much mixed with water to afford proper nourishment, the plants will be irrecoverably checked or perished. If, on the other hand, the stratum of soil immediately under the superficial one is too loose, and unretentive, the moisture necessary to be mixed with mucilage, for a due support of the plants, being too thin, will sink with it, and be washed away, and it is upon the different degrees of this retentive quality of the soil upon which, in a considerable degree, the value of the surface, and of course, the nicety of judgment in a surveyor depends. From what has already been observed, it does not require much time to set forth the particular soil which is most valuable as to the foregoing criterions, viz. that which is neither too retentive of moisture, to chill the plants, or render their food too thin, nor too loose in its nature to admit its running through it too rapidly; but otherwise, gradually filtering the superfluous pure moisture through it, leaving behind it in the soil, all the food for plants with which in its passage it was mixed, *in the most flourishing state.*

PREJUDICES AGAINST THE COUNTY.

ESTATES have been sold in Lincolnshire, within a short distance of time, for half their real value. Gentlemen possessing landed property in this county, (and having estates upon which they reside in others), either from a prejudice against the district, generally imbibed upon an idea, that it is low, and subject to inundations, without minutely examining into the state and condition of their property, have for this, and various reasons, made their election to sell their property here, in order, perhaps, to purchase in another; and, in one instance, it is said, that an estate was sold in this county, not many years ago, for near

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£. 100,000 less than it was soon afterwards proved to be worth*.

It is but since the American war, that a prejudice, which formerly prevailed amongst monied men, as to the precarious state of the drainage of this county, has in any degree been dispelled. In advancing money upon mortgage securities, this county formerly was particularly excepted, which is a circumstance well known to the conveyancers in London.

A part of the county being low, and its drainage having for a series of years been neglected, a conclusion had been drawn by persons in remote situations, unacquainted with it, that the whole district is in winter a kind of duck pool. To have informed them that the 2-3ds of it is high and dry land, requiring no extraordinary drainage, would gain as little credit as the most extravagant assertion that could be devised.

EXTENT of the COUNTY.

ACCORDING to the best accounts I have been enabled to collect, this county is 77 miles long, 48 broad, and 300 miles in circumference. It contains 2958 square miles. It is divided into 3 provinces, viz. Holland, Kersteven, and Lindfey. These provinces are subdivided into 30

* A gentleman, in a distant county, possessed of a considerable estate in Lincolnshire, being disposed to sell it, sent down a valuer of land from his own neighbourhood, a man of integrity, and of general acknowledged skill in his own county; who, after making his survey, in a wet, and unfavourable season of the year, returned to his employer with the unfavourable impression he had imbibed; and recommended, that in order to establish the permanency of the yearly rent, he should grant the tenant a lease for 21 years. This was accordingly done, and the estate was immediately offered for sale. It fetched, however, so indifferent a price, that the purchaser is said to have been a gainer of from 15 to 20 thousand pounds by the bargain. Many other instances of a similar nature might be quoted.

hundreds,

hundreds, containing 630 parishes, 1 city, and 26 market towns. The quantity of acres are computed at 1,893,120. But as it is not necessary, or even possible, on the present occasion, to be minutely exact in regard to the separation of the quantities of the different soils, I shall hazard an opinion that they may be arranged in the following proportions :

				Acres.
Inclosed marsh and fen land	—	—		473,000
Commons, wastes, and unembarked salt marshes				200,000
Common fields	—	—	—	268,000
Wood-land	—	—	—	25,000
Inclosed up land	—	—	—	927,120
Total	—			1,893,120

S O I L.

EVERY soil in the united kingdom, may be found in this county, in considerable quantities, from the sharpest sand, and lightest moor, to the strongest clay, in all its various mixture and qualities.

No county in England can boast such various gifts of nature, bestowed with so even an hand, that a general mixture of property and soils, if judiciously applied in the letting, would operate upon the whole in the same ratio of advantage, with which such gifts are attended upon a well cultivated farm, one and the same district affording light loamy soils, for the production of corn and green winter wood, whilst the neighbouring marsh affords excellent pasture for feeding cattle and sheep in Summer, advantages, which, when laid together, cannot be equalled in any degree by the separate uses of either.

Climate

Climate. The air and climate of this county, in point of salubrity, is, upon the highest part of it, equal to any in the kingdom. Upon the fenny and marshy parts, it has been very much improved of late years, since the drainage has been more attended to; and at this time, the inhabitants of the county have no dread of their healths being impaired, in shifting their abodes, even at advanced periods of life, from the upper parts called the Woulds, to the lowest part of the fens and marshes. The time of harvest in the Northern and Eastern part of the county, lying open to the ocean, is a little delayed from that circumstance; but if the proper times and seasons, for depositing the various seeds in the ground, were to be judiciously attended to, as well as the proper times of laying down the land for hay, the hay and corn harvest would come on much earlier than at present, and nearly as soon in this county as in any other of the same latitude, except in some rare situations, where the soil is in some degree cold and flinty, being of a deep clayey nature.

PRESENT STATE OF THE COUNTY.

FOR the sake of making my observations, on the present state of the county, the better understood, I shall consider it under four heads, namely ; 1. Fen ; 2. Strong loamy soils, not subject to be overflowed ; 3. The Woulds, or light soils ; and, 4. The marshes. The property in the fens, marshes, and Woulds, is, in general, in the hands of large proprietors ; on the strong loamy soils, it is more diffused among the yeomanry, and the occupations are laid out in a similar way, proprietors of extensive landed property, letting it, for the most part, in an equal ratio, to be occupied in large parcels.

The fens are situated on the South-East part of the county : the marshes extend along the sea-coast, from the Mouth of the Humber, to Cross Keys Wash, the strong loamy soils on the South, South-East, and South-West, and part in the North-West, and skirting between the marshes, fens, and high lands, including that portion of mixed arable and pasture land called the middle marsh. The woulds, or light soils, are chiefly North of Lincoln ; with a small portion on the South, extending to the Trent and Humber, on the North and North-East, and on the North-East and East to the marshes.

I. THE FENS.

MODE OF CULTIVATION. That part of the Fens which is used in the way of cultivation, is chiefly arable, and occasionally laid down for pasture—when exhausted by ploughing, with ray-grass and clover. Paring and burning is the great resource, and here it is practised in the fullest extent.

System of husbandry, or precise mode of management, according to the quality of the land (generally speaking) there is none. Doubtless, in so vast an extent of country, there are occupiers who approach nearer to perfection in their management than others; but the general practice is, to begin with paring and burning, as the foundation of their husbandry, to sow cole, or rape-feed (which often stands for feed). Then oats are sowed in succession, year after year, till the powers of the land are nearly exhausted, or till it is doubtful, whether the farmer shall, by a repetition of croppings, be repaid for his seed and labour; and then, such land is left to repair itself by rest, for many years. Nor is it an universal practice to sow grass-seeds with the last crop of grain, and if this process succeeds entirely to the wishes of the farmer, the sooner the land acquires a great thickness of coarse productions, the better; as then it will the sooner require paring and burning, and yield a large quantity of vegetable ashes, a promising foundation for successive crops of oats, or white grain.

Some parts of the fens are in a state of pasture, and now reserved from the plough by the respective proprietors; the best is stocked with fattening oxen and sheep, and the more ordinary with breeding stock.

No part of the Fens can possibly be watered as an improvement: in Winter there is too much of that element, and in Summer, the freshes from the highlands, will scarcely afford a sufficient quantity of water for the stock to drink; and if more could be received down the rivers, to scour them out, and prevent their choaking up, it ought to be so used, as a primary object. Fallowing is very rarely practised, paring and burning being its substitute.

Crops in the Fens. Oats are the grain chiefly cultivated, with here and there wheat, beans, peas, and barley. Cole-feed and clover are the chief vegetable crops, but the latter is generally sown with bad or foul ray-grass, when the land is exhausted by repeated crops of white grain, so that the advantage to be derived by a fair separate use of it, is very rarely experienced.

Woad. At Brothertoft, or in its vicinity, near Boston, large quantities of woad are cultivated by Mr. Cartwright and Mr. Harrison, and with profit. The former of these gentlemen has erected some very convenient buildings, for manufacturing, or converting it to its right uses. The cultivation of this plant in a systematic manner, seems to be his intention, and being possessed of a considerable tract of land, he will be enabled to continue regular apportionments of it, for 4 or 5 years bearing woad, then to be laid down in pasture for 10 or 12 years, after which it comes round again for woad.

Manure. The manures chiefly used in the fens are, the vegetable ashes arising from paring and burning, and common stable, or stable-yard, dung, which latter manure, till lately, was considered to be of no value by the fen-farmers, but rather an incumbrance; and I recollect an instance of its accumulating so much in a farm-yard here, that

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that the farmer thought it more advisable, and did actually remove his barn further into his field, or home close, rather than carry out his dung upon his land. Since the land has become exhausted of late years, by repeated cropping it with oats, the manure is carried a little way into the fields, but the distant land gets none of it, which, if a regular system of farming were to be adopted, must have its equal share.

Implements. The ploughs here used, are of the Dutch sort, not ill-adapted for this kind of land, except that they carry too wide a furrow, being too wide, and too long in their bottoms, which accounts for the fen-men ploughing over so much land as 2 acres *per* day. A plough made in a similar way to the Norfolk plough, would probably best answer upon this land, on account of its being occasionally set to an equality of depth; independent of the ploughman's constant exertion, which is not the case with the Dutch ploughs.

Low waggons are substituted for carts, the sides of which are made to take out, or fall down, as occasion shall require them, to deposit the contents, or receive their loads; and this mode of conveying the requisites upon a farm, may answer as well as carts. All the other implements are in the common way, and need no particular description.

Stock. Brood mares of the black cart kind, are used instead of horses and oxen, which, from the ease with which the labour is performed by them, answer the purposes of agriculture equally well, and as they generally produce a foal every year, which sells for 10 or 12 pounds, they are undoubtedly profitable; but I can see no reason, why a fen farmer, might not extend his gains in this respect farther, by selling off his mares when they are advancing in years, and supplying their places with young ones, instead of wearing them out, which is the present practice.

Seasons.

Seasons. The seed time is prolonged, on account of the general wetness of the land in the Spring, of course the harvest is on that account delayed, about 10 days longer than on the nearest high land.

Inclosures. The fens are not yet completely inclosed. There are several considerable commons yet remaining open, but there is very little land in a state of common field.

Commons. The principal commons, are the East and West Fens, and Wildmore Fen.

These commons are situated a few miles North of Boston, within the Manorial perambulation of the Soke of Bolingbrook, held under a lease from the dutchy of Lancaster, by Sir Joseph Banks, Bart. and contain together upwards of 40,000 acres, viz. West Fen 16,924 acres, 2 roods, 6 perches; East Fen 12,424 acres, 8 roods, 39 perches; and Wildmoor Fen 10,661 acres, 2 roods, 25 perches. The number of towns within the Soke, having right of common in the West Fen, are 22; with falkage, turbary, fishing, and fowling. Eight towns of East Holland having similar rights with the Soke commoners of the West Fen, claim a right of pasturage only, upon the East Fen; which is accounted by the Soke commoners an intrusion, and will probably procrastinate the time of a division. Seventeen towns exercise a right of common on Wildmoor Fen, besides those towns which exercise a right of common on the other fens; so that it appears, that 47 towns claim a right of common on these fens.

These commons are under better regulations than any others in the fen country; which is probably owing to the directions of the respectable baronet, a considerable part of whose estate is situated near to them: yet they are extremely wet and unprofitable in their present state, standing much in need of drainage, are generally overstocked, and

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dug up for turf and fuel. The cattle and sheep depastured upon them, are often very unhealthy, and of an inferior sort, occasioned by the scantiness, as well as the bad quality, of their food, and the wetness of their lair.

Geese, with which these commons are generally stocked, (from various causes, of a nature similar to those, which will be hereafter enumerated, with respect to Deeping fens,) are often, subject to be destroyed.

It is not a constant practice with the commoners, to take all their cattle off the fens upon the approach of Winter; but some of the worst of the neat cattle, with the horses; and particularly those upon Wildmoor Fen, are left to abide the event of the Winter season; and it seldom happens, that of the neat cattle many escape the effects of a severe Winter. The horses are driven to such distress for food, that they eat up every remaining dead thistle, and are said to devour the hair off the manes and tails of each other, and also the dung of geese. A commoner, who farms his own estate in the vicinity of these commons, and pursues a hope of gain from them, in the fullest extent, is eventually not in a much better state than the rack-renter, in a series of years; for when 2 or 3 successive flattering Winters present themselves, he goes on adding to the number of his stock of cattle and geese; then comes a fatal season, in which most of them, by various diseases occasioned by a sudden and continued wetness, are swept away.

The drainage of these commons is very practicable, and which would have been doubtless some time since effected, together with a general inclosure of them; but, there are some reasons which have conspired to prevent the measure being adopted, and which may gradually wear away under proper explanations; and here I will endeavour to enumerate them:

1. That the respectable baronet just mentioned, who is deservedly considered the patron, and (if I may use the expression

expression) the father of this country, has been, till lately, so much occupied by objects of a more distant nature ; and of more general importance to the community, that, probably, he has not had time to turn his thoughts towards this measure, however interesting it may be, in which a deal of investigation and labour is involved, to remove the prejudices of the commoners against a measure, which though, in the opinion of impartial observers, it would be highly and abundantly to their advantage, they have not been able to perceive it ; and the humanity of this gentleman's nature, would revolt at an idea, of forcing upon them, the execution of a measure, absolutely beneficial to their best and most essential interests, against their inclinations.

2. The adjustment of the claim of the 8 towns of East Holland, upon the East Fen, ought to be compromised, and settled before any application to parliament should be made.

3. The expence of an application to parliament, and obtaining acts for apportioning and dividing the commons belonging to 47 parishes ; and the after-division of such apportionments, amongst the commoners of each respective parish, might probably involve the proprietors of the whole, in the enormous expence of 47 acts of parliament * ; a very sufficient reason for the proprietors dreading the expence of the measure of inclosing the fens ; and no indifferent proof, of the necessity for a general act to promote the inclosure of all commons, common fields, common meadows, and waste lands, in the united kingdoms, under such regulations and restrictions, as the wisdom of the parliament may devise.

* The general act for dividing these commons, by the usage of the house, would be charged as 47 acts, and pay the fees accordingly.

A Fourth reason may be, that an equitable mode of dividing the commons is not yet agreed upon.

For it seems reasonable, that the commons should be allotted to the proprietors of the landed property, who have time immemorial possessed them, by the depasturage of such cattle in summer, as they could maintain upon their inclosed land in winter, in a proportionate ratio with the owners of commonable messuages, cottages, &c. It appears perfectly absurd, that commons should be divided and allotted to cottages, messuages, and toftsteads only, to which but little or no land is attached, and by the proprietors of which the commons could not, in any season, be largely or profitably occupied. Another consideration upon which an agreement might properly be founded, previous to applications to parliament, is, in respect of a larger apportionment to those inclosed lands, messuages, and cottages, which are contiguous to the commons, and in consequence of which situations the proprietors have derived the utmost benefit the commons could afford; surely such proprietors, upon a general division of the commons, are entitled to a much larger share in respect thereof, than those proprietors whose messuages, cottages, and lands, are situated at greater distances; and, probably, so far from them, that they could derive no probable advantage from them, in their present state, and who never exercised their rights to any extent, if at all.

Lastly. The present scarcity of money in the country may so far affect some of the parties interested in this measure, that they may feel it necessary to defer an expensive inclosure till better times shall come.

Drainage. The drainage of these fens is not very difficult, and it will be attended with no greater expence than the land upon an inclosure can amply bear, without much inconvenience to the respective proprietors: but, as

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is the general case with all the low land which the sea has left, the lowest part of these fens is nearest the high land, and the greatest distance from the outfall; and these commons cannot be properly drained, without a catch-water drain under the high land, to take the foke and superfluous water, which would form a lodgement behind the commons, in a circuitous direction to the out-fall.

In making my survey of this part of the country, I had the honor of waiting upon Sir Joseph Banks, who favoured me with the plan of a portable barn, made use of at his Majesty's farm, at Windsor, which, as it is extremely well adapted for the fen country, as well as many others, I have, with Sir Joseph's permission, subjoined a sketch and account of it. I also saw, at his seat, at Revelby, an instrument for preventing the calves sucking the cows, which are intended to be weaned, when the cattle and calves are necessarily mixed. Never having seen the thing before, and admiring the utility and simplicity of it, I have with his obliging permission subjoined a drawing and an account of it.

I now proceed to mention those commons situated between the Welland and the Glenn, within the manors of East and West Deeping, which are held under a lease from the crown by his Grace the Duke of Ancaster. Those commons are said to contain upwards of 15,000 acres; they stand very much in need of inclosing and draining, as the cattle and sheep depastured thereon are very unhealthy. The occupiers frequently, in one season, lose 4-5ths of their stock. These commons are without flint, and almost every cottage within the manors has a common right belonging to it. Every kind of depredation is made upon this land, in cutting up the best of the turf for fuel; and the farmers in the neighbourhood having common rights, availing themselves of a fine season, turn on 7 or 800 sheep each, to ease their inclosed land, whilst

the mere cottager cannot get a bite [for a cow ; but yet the cottager, in his turn, in a colourable way, takes the stock of a foreigner as his own, who occasionally turns on immense quantities of stock in good seasons. The cattle and sheep, which are constantly depastured on this common, are of a very unthrifty ill-shapen kind, from being frequently starved, and no attention paid to their breed. Geese are the only animals which are at any time thrifty ; and these, frequently, when young, die of the cramp, or, when plucked, in consequence of the excessive bleakness, and wetness of the commons. A goose pays annually from 1s. to 16d. by being 4 times plucked. These commons are the frequent resort of thieves, who convey the cattle into distant counties for sale.

Oak timber, holly, hazle, with the appearance of leaves, nut shells, and faggots of the tops of oak timber, set up in ridges, with the skeletons of deer and other animals, have frequently been found within three feet of the surface, by persons who have made it their employment, with iron spikes, to search into the soil for wood, which they afterwards dug out to considerable advantage.

Upon the old ploughed land in the neighbourhood of these commons, which have been repeatedly pared and burnt, the ploughs frequently take hold of wood, and the roots of trees, where they had always uninterruptedly gone before, at equal depth from the surface, during the memory of man ; which is of itself a sufficient proof, that paring and burning reduces the soil ; and such adjacent ploughed land, which was considered higher than the commons, when first inclosed, is now 18 inches lower, which is entirely occasioned by paring and burning ; for it cannot be presumed that the first cultivators of this country, since its drowning, would begin to plough the lowest part of it first ; nor indeed could it be accomplished, by reason of the water, with which it remained overflowed.

Other commons are under a scheme of improvement, which will be hereafter noticed.

Labour. The price of labour is not fixed to any precise rules : when labourers are required, and the farmer's occasions are pressing, the labourer exacts the utmost he can get : and, on the other hand, when the farmer's occasions are slack, the labourer's wages are proportionably low. No part of rural œconomy requires regulating more than this ; but, on an average, the following statement is as near the price of labour as possible, viz. from the end of harvest, till hay time begins, the hire of a labourer is from 1s. to 1s. 2d. *per* day, and 1s. 6d. *per* day, from that time till the corn harvest begins ; and during the time of harvest, from 2s. 6d. to 3s. *per* day. No precise rule is fixed for piece-work ; for, if it is corn to thrash, the price *per* bushel much depends upon the state in which the grain was stacked, or embarned. If it is a ditch to make, much depends upon the strength of the soil, the season in which the work is performed, and the distance the soil is to be thrown, or removed ; and the same variations must be allowed for in every other part of the labourer's employment ; but, as the fen soil is generally much easier to dig than any other, 2½d. *per* yard cube is about the average price of ditching ; but a labourer, when employed in piece work, expects to earn at least 20d. *per* day in winter, and 2s. in summer, and in putting out work to them, this rule is generally adhered to and allowed : in all cases the labourer is supposed to work in winter, and in harvest, from light to dark ; and at other times of the year, 12 hours ; the employer allowing a reasonable time for refreshment. Women, when employed inweeding corn, are paid 6d. *per* day, and in hay time from 10d. to 12d. at other times of the year, they have no employment

Hay-

Hay-making is very indifferently performed, no particular attention being paid to it, as in the Southern counties; in fine weather it generally lies in the swath, if not a very thick crop, as the scythe left it, till it is considered to be half made, and then it is turned, and prepared for the stack; but, if it is a thick crop, it is in some places broken a little: the loss sustained in wet seasons, for want of attention to the hay crops, is very considerable. A similar want of attention appears in making and finishing the stacks, which are very rarely topped up, pulled, or thatched, in a proper manner to secure them.

Provisions. The price of provisions is nearly the same as at all other places of equal distance from the metropolis: good mutton, pork, and beef, are nearly as dear as in London, deducting the value of the driving the animals thither; a more ordinary sort, not fit for the London market, is sold from $2\frac{1}{2}d.$ to $3\frac{1}{2}d.$ and $4d.$ per pound.

Bread, when purchased of the bakers, is nearly as dear as in London; and the poor have not the forecast to purchase corn, and to manufacture their own meal and bread, which might be readily accomplished. The price of provisions is not likely to decrease. Not many calves are fatted in this country, as they are chiefly reared, and the veal is of a very indifferent quality, very little care being taken of their lodging or sucking. It is not an object of common concern with the landed interest, that the necessary labourers employed upon the respective estates should have provided for them comfortable habitations, and other accommodations, whereby they may keep cows, and produce necessary potatoes, and other roots for their families.

Miscellaneous observations. But little wood is to be found in this part of the country, except the willow.—The roads are tolerably good in summer; but in winter, as the materials

materials of which they are composed are very soft (being chiefly of moory soil and filth), they are then often very indifferent.

The farm-houses and buildings are generally very well adapted for the situation of the country, and generally well distributed.

The drainage of this part of the fens has been for a series of years very much neglected, and stands much in need of being better drained, which can be effected without a great exertion of genius.

2. STRONG, LOAMY, CLAYEY, AND MIXED, SOILS.

MODE OF OCCUPATION. As there is no distinction in the management of these soils, I have not thought it necessary to separate them under distinct heads.

These descriptions of soils are about equal parts arable and pasture, and nearly in 1-4th common-field, in the management of which there is no precise or specific mode. In some parts of the country, the common-fields are divided in 4 parts, in others 3, in others 2, the whole being very much mixed, and dispersed. The mode of cropping in those fields, which are divided into 4 parts, is in the following routine, or nearly so:

1	year fallow		fallow		fallow
2	wheat	or	barley		barley
3	beans		beans	or	clover
4	barley	or	wheat		wheat

In

In those fields of 3 divisions, is the following routine of cropping, or nearly so:

1	year fallow		fallow		fallow
2	wheat	or	barley	or	wheat
3	beans		beans	or	oats

But the foregoing modes of cropping are not generally established, nor are the occupiers held to them by any particular rules.

IN THOSE FIELDS WHICH ARE EQUALLY DIVIDED, it is the customary practice to fallow a moiety of one of the fields for wheat and barley, and to let the residue of intermixed lands lie the whole summer, which has, in the previous year, produced wheat or barley, without being ploughed or sowed with any grass, or other feeds, a very plentiful crop of thistles is generally produced. In settling the rents, and ~~selling~~ the land, under a specific mode of management, upon Colonel Manners' estate, who has some arable common field land in Allford, in 1790, I persuaded the occupiers to sow clover with their barley and wheat, for it was impossible to compel general adherence to any plan, which is not sanctioned by 4-5ths of the occupiers of a common field; that instead of a moiety of one field lying the whole succeeding summer, producing thistles only, clover might be had; this was practised for 2 years, but left off in 1783, and the reason assigned was, that in the previous winter the sheep had been destroyed by a general rot; and therefore the occupiers were disheartened, and did not think it worth while to sow clover. The thistles escape both mowing and hoeing; of course their seeds are plentifully distributed. The land thus producing thistles comes in routine in the succeeding year, to be sowed with beans and oats. Hence it appears, that a moiety of the arable land produces wheat, barley, oats, and beans; the other moiety lies in a state of fallow, and producing thistles.

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thistles, as before described ; so that if this description of land were to be farmed according to the original intention of the occupiers, the soil *would* come in rotine to be cropped with the same kind or sort of grain every 8th year ; but from self-interested views in the occupiers, and from the supineness, or injudicious management of those who have the conducting of such concerns, this system is interrupted by sowing too large portions of oats, which brings the repetition of white grain crops (and particularly oats, the greatest impoverishment of land) to a shorter period. It might be said, by a cursory observer, that it is not probable, that an occupier should delay his own interest, by pursuing that mode of agriculture which is ultimately destructive of it ; but when it is considered how many indirect motives may draw a farmer from pursuing a line directed towards a permanent interest in the soil, it will no longer remain a matter of surprize : for instance ; a proprietor may have discovered a degree of instability in his conduct towards his tenantry, by raising their rents, already sufficiently high in the present state of the land, without granting leases, or pointing out any modes of improvement, or management, by which the tenantry may be compensated for such additional rent. A proprietor may have discovered some symptoms of extravagance, and a portentous apprehension may be afloat, that alienation of the property may take place ; and, last of all, the tenant's own circumstances may, from various causes, and amongst the foremost may be found a perseverance in a mode of agriculture, tending to keep him poor, and the land weak and foul, induce him necessarily to prefer immediate gain to future prospects.

And whether the arable land is divided into 2, 3, or 4 parts, the same practices are pursued in the repetition of crops of white grain, and particularly oats, tending to keep the arable land in a low and reduced state, it not being

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half so productive as it might be made, if even the best mode was to be pursued, as before alluded to, which was originally laid down by our ancestors.

Drainage is very sparingly, if at all, pursued, and very seldom extended beyond the immediate intention of securing the crop that is growing, the occupiers not apprehending that the success of every crop depends upon the land being kept, in every season, in a proper state of drainage.

Folding sheep upon the fallows, in the common fields, is a pretty general practice in the South and West part of the county; but on the North-East, and East, it is not much pursued.

Mixed with the common fields is a considerable quantity of commonable land, which suffers considerably for want of drainage, which is the frequent cause of the rot in sheep, and the dropsey, pheltrie, and various other disorders in neat cattle and horses.

Commons. The commons in the Isle of Axholm, surrounding some of the most fertile, strong, loamy, soils in the kingdom, may be here justly instanced. These commons and wastes contain upwards of 12,000 acres, which, divided and inclosed, would for the most part, make very valuable land, being in considerable parts of a clayey bottom; but, in their present state, they are chiefly covered with water, and in summer throw forth the coarsest productions: the best parts, which are those nearest the inclosed high lands, are constantly pared and burnt to produce vegetable ashes to be carried on them, in order to force repeated crops of white grain. The more remote parts of the common are dug up for fuel.

On account of the general wetness of those commons, and their being constantly overstocked by the large occupiers of contiguous estates, or in such seasons as the depasturage is desirable in summer, to ease the inclosed

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land,

land, the cattle and sheep necessarily depastured thereon at all seasons, being those of the cottagers, who are for the most part destitute of provision for them in winter, are always unthrifty, and subject to various diseases, which render them very unprofitable to the occupiers.

Heavy

Common Fields. The common fields of Epworth, Belton, ~~Flixby~~, and Owston, within the isle, consist of a very fertile, strong, loam, the property in which is very much divided into many different small occupations. Potatoes, and every kind of grain, pulse, hemp, and flax, are indiscriminately and unsystematically cultivated. It is a common mode with the occupiers, to sow 5 or 6 successive exhausting crops (one of which is generally flax) without attempting to fallow the land, or throw any manure upon it.

When it is reduced to a state of beggary and rubbish, it is well covered with manure, and hemp is sowed thereon, of which it generally produces a great crop; this ~~smothers~~ mothers all other productions, and is the foundation of various other successive exhausting crops. Potatoes are here produced in great abundance, and of the best quality, and sent down the Trent, which bounds the Eastern part of the isle, to the London market. Upon the banks of this river, there is some very fertile, inclosed, strong, loamy, soil, producing abundant crops of every species of grain, pulse, potatoes, &c. There are also, on the Eastern side of the Trent, some thousands of acres of very valuable land in a state of common, extending along the Trent, from Stockworth towards Flixborough, which will well answer the purposes of draining and inclosing.

The drainage of the commons of the Isle of Axholm will not be a very difficult undertaking, provided the out-fall is made into the Trent, at a certain point, probably below Waterton. Hitherto the drains necessary to convey the

water to the Trent from Haitfield, otherwise Hatfield, and the adjacent country on the Yorkshire side, have been carried over the isle commons into that river too high up, in the way of the Trent floods, which override the sluices and goats, and which operate at present as a bar to the improvement of the drainage of the commons; and lately, by authority of parliament, a canal has been made in a similar way across them.

I am informed, that the isle commoners are empowered, by a clause in the act, to drain their commons by means of tunnels, to be laid under this canal; but, during the time all the improvements of the adjacent county were completing, the isle commoners have been unfortunately dormant, and have greatly delayed their interest, in not draining their commons, by means of a competent general cut, down to the best possible outfall that could be obtained, which might have received, by side cuts, all the water from Haitfield, and the Yorkshire side; and which would serve to scour out, and deepen, such general cut, not only in its progress to, but at the outfall. A bill is intended to be brought into parliament, in the next sessions, for an inclosure and division of these commons, and the preliminary popular mode seems to be on the eve of being settled, viz. to give to the lord of the soil * 1-20th part for that right; to the tythe owners, 1-10th; and 2-3ds of the residue to owners of common right houses and toftsteads; and the remaining third part to the owners of lands, having common right houses and toftsteads.

This mode of dividing the commons seems to be a compromise to prevent farther opposition, and not adopted

* Lord Carteret is lessee of the manors of Epworth cum Westwood, and ~~Flancon~~ under the crown: I had the honor of regulating the husbandry to be observed upon this estate, which is chiefly inclosed land, and which I found ploughed to destruction. The covenants, by which the tenants hold the land, are of a beneficial nature, both to landlord and tenant.

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altogether upon a principle of equity, because the owners of the land have certainly time immemorial occupied the commons in a larger extent, and in proportion to the stock they kept in winter; whilst the mere cottagers, for want of provision for their cattle in winter, as well as from the general unprofitableness of the situation and mode of occupancy, have kept a much less proportion of stock than the occupiers of messuages and lands.

Inclosures. The inclosed estates, ~~which~~ are chiefly in the hands of large proprietors, anthills, bushes, rushes, and water, occupy a very considerable part of the pasture land, which is not half so productive as it might be made, even if it was to be continued in a state of pasture; a portion of this inclosed land is under the plough, probably such quantity may extend to 1-4th part, but few farmers have a sufficient quantity of ploughed land to enable them to go on systematically, in procuring green winter food, and artificial grasses, &c. if they were inclined to do so; but the quantity of ploughed land is considered, by the proprietors and agents, as so much devoted to destruction; and, upon this description of property, the tenants are under no restrictions, except as to the not ploughing up ancient pasture land. Upon tracing back the former usage of this property, it appears to have been the practice, as it is in the present day, for tenants to obtain permission from those into whose care the management of the property has been committed, to plough parcels of the pasture land from time to time, under assurances of laying ~~land~~ down again, for pasture, parcels of arable land, which have been heretofore under the plough; but as there has not been any stipulated proper mode, in which such land should be farmed, whilst it continued under the plough, or in ~~what~~ state it should be again laid down, the common practice has been, and now is, to raise successive crops of white grain,

grain, until its nature is not only exhausted, but filled with beggary and rubbish, and then it is sowed down with grass seeds to repair itself by rest; and a common excuse for this procedure is the most absurd of all possible excuses, viz. "If grass seeds had been sowed with the corn, when the land has been lousy, or in a richer state, the seeds would have been choaked by the luxuriance of the crop." There surely cannot be a greater absurdity, than that of exhausting the land with repeated crops, and thereby making it poor and foul, at the very precise time when it is to be seeded down, and when a foundation ought to be laid for its heart and good condition for ages; and this practice may be traced, in almost all the pasture land which has been ploughed within the present century, so that it is not the natural face we are given commonly to behold, but a foul and disguising mask.

Fences. Very little attention has been paid to the preservation and improvement of the live fences, so that old decayed stumps of white thorn, and gaps or vacancies, may be discovered in almost every hedge. Plashing, or laying down the live fences, has been very improperly performed, and generally they grow too long before this necessary business is set about: live stakes are left in the hedges, which necessarily produce young shoots from the top of the stakes, instead of their root; the fences on this account become thin at the bottom, where they otherwise would be properly the thickest; and the fences, from this improper treatment, and from the want of proper back or guard fences, fall to decay; besides, if the fences were to grow as profitable from the top of the stakes as they would from their roots, yet, from these circumstances, the land is shaded by the whole length of the stakes more than it need to be, which delays a farmer's interest.

And

And so little effect, in this particular, has the force of example, that I lately observed, when looking over the estate of Sir William Manners (the manor of Silk Willoughby, near Sleaford), the fences upon one of the farms appeared in excellent condition, being plashed in the best manner; and I also observed, that no other farmer in the parish had attempted the like: this observation led me to suspect, that Mr. Tagg, the tenant, came from some distant county: upon enquiring it appeared, that he is a native of Derbyshire, but has been settled in this parish many years. The common excuse set up by farmers, for leaving live stakes in the ~~live~~ hedges, when plashed, is, that the poor constantly draw out dead ones for firing; but, if this absurd doctrine had any weight, it might apply as a reason for not keeping poultry and pigs; and so it would, if they were not better looked after than the hedges.

But, as it is necessary for the farmers and graziers interest, that the live stock should be kept separate, dead fencing supplies the place of the live, which is an eternal expence to the occupier, in a double ratio, viz. in first providing fencing-stuff, with the carriage of it, often a considerable distance; and, second, in the delay of his interest, by reason that the land occupied by a dead fence might sustain a live one, which would be not only answering the first intention, but growing, and yielding a necessary crop of some profit.

Miscellaneous observations. Wood land is for the most part cleared in rotine, and the underwood cut, without the vacant places being supplied with young plants, of such kinds of wood which is best adapted to the soil, climate, and uses of the country, the woods of Sir Peter Burrell, under the judicious management of Messrs Cluttons, of Cuckfield, Sussex, and some few others only excepted.

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The farm buildings are not generally placed in central situations, and, for the most part, the farms are deficient of those conveniences, which are necessary in a due cultivation of the land.—The inclosed parcels of land, are not laid out, of equal size, to admit of systematic farming or grazing.—Sheep are not generally folded in the common fields, or elsewhere.

Whoever apprehends, that the occupiers of a common field, are necessarily tied down, to any precise mode of management, by the custom of any parish, are grossly mistaken; for each occupier is only under an obligation to the others, not to break up any of the commonable land, to set apart the regular field or apportionment of fallow; to open his ditches and water courses; not to suffer the *thistles and weeds* to be seeded upon his neighbour; and to stock the field according to the practice of the parish: in all other matters, he may drive the land, and force it totally out of heart; first, by negligence in fallowing; and next, by sowing wheat upon all his fallowed land, which should be divided between barley and wheat; and in sowing oats in succession to wheat or barley, instead of beans; and, in all this mismanagement, he does not infringe upon the rights of his brother farmers: but it has frequently occurred to me in practice, that some of the occupiers of a common field, are pursuing the best possible mode of management the situations are capable of, whilst others are reducing land, intermixed therewith, to the lowest state of poverty, beggary, and rubbish, making the respective value of the inheritances to vary 3, 4, or more, years purchase; and upon the inclosure of common fields, it frequently occurs, that commissioners are obliged to consider such worn-out land, of considerably less value than such parts as have been well farmed; of course the proprietors, whose misfortune it has been to have their land badly occupied, have had a smaller share, upon the general
division

division of the property, than they otherwise would have had, in case their land had been better farmed.

No drilling, hoeing, or dibbling, is pursued in the common fields, but in some instances sheep are turned into the beans, to eat out a part of the weeds; but this is a miserable substitute for properly hoeing, thereby destroying weeds, and mouldering up the plants, and profitably employing and bringing up the infant poor in agricultural pursuits, of which the country stands much in need.

Very small portions indeed, of inclosed land, are drilled and hoed, and I know but few instances where it has made any considerable progress. The farm of Mr. Henry Hoyte, of Osbornby, near Folkingham, stands first in my estimation, as a spot on which the best husbandry, with the best application of the produce of the land, by means of the best stock, are united. Mr. Hoyte has drained the soil to its exceeding improvement, and introduced the most judicious modes of drilling now in practice, and of which, with his judicious choice of stock, I shall have occasion, hereafter, most deservedly to enlarge upon. Except in the foregoing instance, I have not been able to find any turnips completely and systematically cultivated*, and properly hoed; but it occurs, that the interest of the occupiers, for want of attention to this necessary process, where this excellent winter plant is cultivated, is generally delayed, from 30s. to £ 3 and upwards *per acre*.

Men of independent fortune, in whatever rate their possessions extend, and their estimations of such gifts made, are too much engrossed in those pursuits, which are the

* Mr. Hoyte refused £ 10 10s. *per acre*, in 1792, for his drilled turnips; and he made £ 12 12s. *per acre* by the common rate of agistment of his own stock. He is a tenant to Lord Brownlow; and, although he has not a lease, he has implicit confidence in the noble lord, that he will not avail himself of his expensive improvements, and to make him, by an untimely advance of rent, pay a second time for his exertions.

result of it, to strike out into schemes of improvement in agriculture; and this task has been generally consigned to those whose circumstances are more craving, and with whom the spur of necessity becomes the mother of invention; and it is unfortunat for the public, that in the progress of schemes of improvement in agriculture, which, if strictly and properly pursued, would certainly be attended with success, from a variety of circumstances, their progress meets with unexpected delays, hence the prejudiced and obstinate improperly exult, and are more confirmed in their absurdities*.

* This is an unfortunate instance to verify this remark in Mr. Walker, of Wolsthorpe, near Grantham, who, till lately, was carrying on a great scheme of excellent husbandry and stock, but he became concerned in a spinning machine, which failed of success; and this worthy man's misfortune is falsely imputed by many, to the having adopted schemes of agricultural improvement.

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3. THE WOULDs, OR LIGHT LOAMY, AND SANDY SOILS.

MODE OF OCCUPATION. This description of property was formerly for the most part devoted to rabbits, the residue as open common fields; but within the last century, nearly the whole has been gradually inclosed, and brought into tillage, and occupied as arable farms; which are generally in the hands of large occupiers. The tenants are rarely under leases, or bound by any rules to enforce good management; and of course, the interests of landlord and tenant are not defined, or in any degree preserved from militating against each other, by regular well-digested systems of farming, laid down between landlord and tenant, in pursuit of the best practical modes of husbandry, which have been adopted upon soils of similar natures.

On this account, we find the generality of the land poor, weak, and foul; made so, by repeated crops of white grain; and which procedure having been long continued, of course the means of producing the common manure to reinstate the land, have gradually decreased; and it is not an uncommon thing, to find very considerable tracts of land, by such means, reduced to a state much worse, than it was in when cultivation was first began, or when the inclosures were first made; and it is now considered, as only fit to be turned again to its original mode of occupancy, in rabbit-warrens; and which is, in many instances, adopted.

The reason why farms are now generally large, and have increased, is not always from the growing opulence of the farmers, but probably from the land being reduced so

much in its condition, that it requires that they should now occupy a large quantity of it, to afford them a living *.

Crops. As no systems of farming are laid down upon the respective soils, no particular courses of husbandry can be set forth; but the best to be found is somewhat like the following:

1. A very indifferent summer fallow: turnips badly hoed, or not at all, and fed off with sheep.
2. Barley, or white oats.
3. Wheat, if the land will bear it, if not, any thing it will bear, or grafs seeds.
4. Grafs seeds, or oats, if the land will bear a crop, sowed with artificial grafs seeds.

Turnips are cultivated in this part of the country very extensively, but, for the most part, the fallows are ill-prepared for them, and they are very badly hoed, or not at all by which neglect, from 20s. to £ 3 per acre, in the value of them, is generally lost; and more, if we estimate the loss of the manure they would afford.

A cursory observer might remark, that the introduction of turnips and artificial grasses, was an improvement of itself: and he would farther say, that the county of Norfolk was improved by the like means: and so it was in part, but that was not all; gentlemen of landed property there, put there shoulders to the wheel.

* The bowels of the earth are but rarely searched into, for the means of improving the surface.

The fences are in a very indifferent state, live ones have been generally neglected, or dead ones substituted for them; the expence of which, and the delay of the farmer's interest therein, has been heretofore pointed out.

Little timber, or wood, is here cultivated.

Artificial grasses are rarely sowed upon the first crop, after a fallow, nor turnips fed off; therefore, their most profitable uses are lost.

They apportioned their estates in regular divisions, and subdivisions, making their farms of various sizes, to suit the circumstances of the tenantry. They assisted them in searching for the means of improvement in clay and marle; they joined in the original expence of raising it, and spreading it on their land, and they encouraged the tenants to persevere, by granting them leases for not less terms than 21 years: and for the interest of the whole, as well as each part, they regulated proper systems of farming, adapted to the strength of each respective situation and soil. They took care for themselves, that their tenants should have every profitable use, but commit no abuse upon the property; in fact, that they should keep up the heart, and good condition of the land, with which, from time to time, it was impregnated.

The agents employed upon the estates, are trained up in the regulated systems, and know how properly to relax the occasional hardships, which the tenantry might suffer, from the vicissitudes of seasons, and by keeping them up to the strict letter of their leases, without injuring the landlord's interest: and after this statement, no one who is conversant with the general management of the Wolds of Lincolnshire, will yet ask, why that country is not cultivated in a manner equal to the county of Norfolk.

Buildings. The buildings upon the Wold estates, are not placed in central spots; but the farm-houses are generally on the lowest situations; originally placed there, with a design to shelter the inhabitants from the cold winds.

And there are generally evident marks of a decrease of population, from the number of decayed farm-houses; whilst it appears, that in various situations, one or two opulent farmers, skim over some thousands of acres, formerly occupied by more inhabitants; and there cannot be a greater proof, that agriculture has not abundantly improved in
this

this country, than the decrease of the number of its inhabitants.

Miscellaneous observations. The generality of the Wolds of Lincolnshire, might now be made more valuable to the proprietors and occupiers, if the soil was in the precise maiden state; the most considerable part of it was found in, 100 years ago, and now to be laid down, under well-regulated systems of farming, than it is possible to be made from the present reduced condition, for a very considerable length of time: the land having been broke up, or pared and burnt, and ploughed, without restrictions, until it is quite exhausted.

How little did those proprietors understand their own interests, who permitted their tenants, without restraint, to break up, or pare and burn the turf of rabbit warrens, and other land, in a state of antient pasture, upon the delusive colour of an advance of rent, by which procedure, the inheritance was injured in a tenfold ratio, and who could be amused at last, under an idea, that, if the tenants who had thus overploughed the land, stocked it again with rabbits, no damages were incurred. Setting aside a delay in the progress of agricultural improvements, it must follow, that that soil, which is exhausted for one purpose, is equally exhausted for another. By this mode of plunder, and every kind of abuse in the occupancy of landed property, there are several men in this country, who have acquired large fortunes.

I cannot make a calculation upon the annual value of a rabbit warren (never having been concerned in the occupation of one) other than considering it with a view to cultivation; and if the occupiers will not give more rent for the land in that state, than in any other, I should be inclined to destroy them; rabbits being injurious to live fences.

fences and mounds, and to a well-cultivated neighbourhood.

The improvement by means of flooding the land at pleasure, is not practised in this part of the country, nor are there many considerable spots upon which it could be brought to bear.

It is in very rare instances that lime, marle, or clay, are sought for, or used, or any other manures than those which the common stable, or fold-yard, afford: but I am of opinion, that both marle and clay may be found in very advantageous situations, and capable of being applied to very great advantage.

The implements of husbandry here used, are of the sort most general in the kingdom. The ploughs are too wide and too long in their bottoms, and bear no proportion in point of execution, with the Norfolk wheel plough.

Oxen are used in a considerable portion of the labour, and are found to answer in point of advantage, to the occupiers.

There is but a small portion of this description of land in a state of common field, and what remains, is, for the most part, under contemplation of inclosure.

Inclosures. The advantages here resulting from inclosures, have been chiefly the laying the land together; which, in a state of common field, was very much mixed and dispersed.

An increased annual payment has been made by the tenants, on account of such inclosures; but, for want of proper systems of husbandry being adopted, in many instances, the value of the inheritances have not improved, otherwise than by the land being laid together in a more contiguous manner, as before-mentioned.

The principles upon which the business of inclosing is performed, is not generally a good one.

In every inclosure bill the commissioners are required to allot the lands to be inclosed, with due consideration to quality, quantity, and contiguity. Whether from mistaking the meaning of the latter word, or from paying too much regard to the situations of the farm-houses already erected, it commonly occurs, that the contiguity of the land to be allotted to each respective house and buildings, is more considered than the general connection or contiguity of the allotments in a square manner, so that in those situations near a large village, the property is jumbled together in a degree unprofitable to all parties concerned; and the large proprietors are obliged to travel to their allotments, carried out, in parcels, to a considerable distance.

Surely it would be more desirable for all parties interested, to have the distant parts of the parishes to be inclosed, considered, as to be detached in the first instance, and for suitable allowances to be settled by the commissioners, for the expence of new buildings in central situations, whilst the proprietors, whose estates are allotted to their houses and buildings in the villages, would have all their lands contiguous, at a rate proportioned to the advantages so to be derived. For the first great benefit resulting from an inclosure, is contiguity; and the more square the allotments are made, and the more central the buildings are placed, the more advantages are derived to the proprietors in every respect.

Inclosing has certainly decreased population in this country, for want of an introduction of the Drill, and other systematic husbandry; and from the lands being laid out in too large farms.

Seasons and term for removal. The seed time and harvest here, fall later than in the more Southern districts, not only on account of its being farther North, but from mismanagement in not getting the seed, or the Spring crops, sufficiently

sufficiently early into the ground, which is in many places delayed till May. And upon many estates here, and in other parts of the county, this is the customary time for quitting, and entering upon farms, which is a bad practice, for if it is arable land, it is too late to put the spring feed in the ground, if it is meadow, clover, or feeds for mowing, it is too late to lay in the land for that purpose. If it is artificial grasses, or pasture, being fed off bare (for tenants, who are here going off, seldom leave any thing behind them) the interest of the incoming tenant is extremely delayed.

And wherever the following custom prevails, it should be abolished, viz.

For the incoming tenants to enter upon only the farm-houses, pastures, meadows, and fallows, at the time the tenancy, and the whole of the rent commences: the outgoing tenants taking the crops of grain, pulse, &c. in that year, and embarning them on the premises, and keeping possession of the barns and stack-yards until the Midsummer twelve-month, after they cease to pay rent, in order to thrash out and carry away the corn. In other instances more barbarous, though more rare, it is customary for the outgoing tenants to sell all the last year's crop in the straw, at harvest, to the public, to be carried off the premises. Of course, the incoming tenant adheres to the custom of his entry, when it is his turn to quit, &c.

Labour and provisions. The price of labour is nearly the same as herein before stated, with respect to the first district of this county.

The price of provisions also, is nearly on a par, for although this part of the county is farther from the metropolis, excellent constant markets for fat cattle, and sheep, are found in the manufacturing towns of Yorkshire, whither they are, in large quantities, driven; and here the

price of butchers meat is likely to increase; but that of bread would a little decrease, if the country was to be better cultivated, and the poor were to manufacture their own meal, and make their own bread. And I recommend, that those gentlemen, who are interested in the welfare of each parish, would induce the farmers to sell, and the poor to purchase, their corn, at the first hand; and to convert it into meal, by means of excellent mills, made for such purpose, by Stockdale, of Holborn, London. And if more attention in this country was to be paid to the excellent fish, the neighbouring sea coast affords, the poor, as well as the public, might be greatly benefited: but at present, there are very few fishermen on the coast.

Roads. The roads in this country are tolerably good, without nice attention being paid to them, except in winter, when attempts are often made to repair them. They are certainly capable of being improved at no extraordinary expence, provided the best materials the country affords were sought for, and duly applied, in a proper season.

Paring and burning. That practice is not so common, in this part of the country, now, as it was formerly*; and where it has been done, evident marks remain of the injury the land has sustained by it.

Improvements. There are undoubtedly some good farmers in this part of the country, and men who are well deserving of imitation; and I am sorry to add, that the force of example only, is not alone sufficient, to bring the generality of farmers, into more advantageous modes of agriculture.

* The difficulty of getting any turf or herbage, to produce vegetable ashes, is the chief reason of this delay.

Mr. John Codd, of Ranby, a very spirited and judicious improver and breeder of sheep and cattle, as well as a promoter of agricultural improvements, has used Mr. Duckett's drill machines, and other implements of husbandry, very profitably, for some considerable time, without their being much sought after by the farmers of his neighbourhood; many of whose modes of occupancy, are the most unskilful that can be conceived.

If it was not much more the design of this publication to state the general agriculture of the county, than the particular instances of good management, I could enumerate several proofs of it; but, as at least 9-10ths of the agriculture of this large tract of country, is barbarous in the extreme, I am certainly justifiable in representing such to be its general state, without giving offence, which is the furthest from my design.

4. THE LOWER MARSHES,

Being that description of low land which is protected from the overflowing of the sea by embankments.

THIS part of the county is supposed to contain above 160,000 acres; and, as before observed, extends along the sea coast, from the Humber on the North, to Cross-Keywash on the South. The most considerable part of this land is in a state of pasture, and of a very good quality for feeding, or fattening, cattle and sheep; but not much used to breeding, for which purpose it is not well adapted, nor could it be so profitably applied*.

The Southern part is more used as arable land, than that towards the North, but no regular system of husbandry is pursued. Very little land is here let under lease, nor any precise rules for management observed; but it is used in a manner similar to the fen, in respect of repeated crops of white grain, except that the destructive practice of paring and burning is more sparingly pursued. In contemplating the husbandry of this part of the marshes, I cannot pass over the parish of Long Sutton, without observing, that the former commons, belonging to this parish, about the inclosure of which so much opposition was made in both houses of parliament, have turned out productive to the parties interested, beyond all calculation of advantage, even of those who brought forward the bill: all animosities having subsided, the former contending parties sit down peaceably, enjoying the harvest of a well-fought field; the land producing immense quantities of

* The lambs would be drowned in the ditches, &c. &c.

corn, hemp, flax, woad, and every valuable production. And all this alteration, much for the benefit of the country, though so violently opposed, was carried into effect, by the perseverance of one spirited proprietor, viz. Joshua Scrope, Esq. the Lord of the Manor, upon the petition to parliament, of the smallest majority of proprietors, ever known under similar circumstances.

Farmers who took undue advantages of the commons, by hiring common-right houses, and, under colour of such rights, turning upon the commons 7 or 800 sheep in a season, and thereby eating up the poor cottagers rights, had address enough falsely to represent the case, and to prevail upon their landlords, and others in power, to support them in this violent opposition. This inclosure has been followed by that of the adjoining commons of Tydd; and some thousands of acres of common, in the parish of Whaplode, Holbeach, and Fleet, being in this neighbourhood, are now under notices for a bill of inclosure, to be supported by Lord Eardley, who is a lessee under the crown for considerable estates in one of those parishes. But, whilst I contemplate the vast advantage arising from the inclosure of the commons of Long Sutton, I cannot but observe a considerable quantity of land in that lordship, which was originally gained from the sea, and was, in the first instance, as productive and valuable as the late inclosed commons, but which, by a series of exhausting crops, and every species of mismanagement, is reduced to a very low condition. And, I fear, the late inclosed commons of Long Sutton are under a similar treatment; and, unless the plough be restrained, and a well digested system of husbandry adopted, we shall, in the course of 10 years, see this amazing productive track of land, in such a state, that it will no longer bear exhausting crops of grain, laid down for pasture, probably of but little more value to the individuals immediately interested, and

and to the community, than it was in its state of common.

An embankment, of many thousands of acres of salt marsh, fronting the parish of Gedney, and its vicinity, is carrying into effect, which will be of infinite advantage to the proprietors, and the community.

Mr. Drake, Member for Amer sham, is a principal promoter of this undertaking, by his judicious agent, Mr. Kent, of Fulham.

A great scheme of improvement, by means of a cut, for the drainage of the lands in South Holland, and parts adjacent, to a competent outfall in this district, is now carrying into effect.

It is a matter of great public concern, that in every scheme of drainage, the interior parts of the country should be brought into the measure on the outset; for, by constructing works for drainage, nearest to the outfall, in the first instance, they are often found afterwards to be incompetent to effect the general good; by reason of which, an after-expenditure is incurred, of which more than a moiety might have been saved in the first instance, as well as the general improvement of the country effected, instead of a partial one.

The drainage of the manors of East and West Deeping, with their extensive commons, might, probably, be found, upon a proper survey, to be effected in the direction of the new cut, by proper tunnels laid for that purpose, under the river Welland, &c *. But those manors are held by his grace the Duke of Ancafter, under a lease from the Crown, which is nearly expired; and, unless his Grace had a renewal of it, for a competent length of time, in which he might be at least repaid the expences of such an

* I cannot speak with precision on this subject, not having been employed in any minute investigation, by levelling, &c.

under-

undertaking, it is improbable that he should promote it.

As we proceed Northwards, the marshes stand very much in need of a better drainage, and for want of which the most profitable use of the land, in Summer, is very much delayed; and in Winter, almost denied.

The sewers and drains, which ought to be competent to conduct the water immediately from the high land to the outfall, at all times, as well as the outfalls themselves, are too much cramped or confined, and a false principle in drainage, by long custom, is established, viz. not to open or cut strait the sewers and drains nearest the high land, lest the water should come down too rapidly, and be forced over their banks, in its way to the outfall, where it cannot get away fast enough, to prevent the drowning of the intermediate lands.

The sea banks, according to the law of sewers, ought to be repaired and amended from time to time, by the occupiers of lands in the frontage towns; and whenever any banks are necessarily to be erected, the whole district is chargeable therewith; and it is customary to charge the expences by an acre-tax, and not according to the yearly value of the lands, which is certainly, in many instances, where the value of the lands vary, extremely oppressive. But it sometimes happens, that well-timed applications of a small expence, in the due repairing of parts of the banks, might be the means of supporting them for ages; but it is not always considered the interest of the occupiers of frontage towns, to repair the banks thereof, and they would rather, in some instances, when they become very bad by neglect, render new ones necessary, to the expence of which they would only contribute a proportionate share with an extensive district.

It is not a custom for gentlemen of extensive landed property, who are most interested, (Sir Joseph Banks, and a

few other gentlemen, excepted) to attend the meetings of commissioners of sewers, and to take the necessary views in this part of the country; and, therefore, the business of importance, in which the preservation and even salvation of a rich and fertile country is involved, is too frequently carried into execution, upon the votes of those gentlemen, who are not well versed either in the laws or customs which ought to be observed; nor possessed of that practical knowledge, which a decision upon objects of so much importance requires; for, however skilful the officers employed may be, it ought not only be a satisfaction to them, that their judges understand their demerits, but a great share of the responsibility and ill-opinion of the country, even in cases of miscarriages that might occur, which no human foresight could prevent, would thereby be taken off their shoulders.

A work of considerable importance, in the bank near Saltfleet, was lately blown up by a tide; which, in the first instance, recently cost the country from 1500 to 2000*l.* and which is now to be replaced in a more skilful and substantial manner. More discernment in the commissioners, or in their agents, might probably have prevented, or rendered this expence unnecessary.

It has, in some instances, been a practice, in erecting new banks, to retreat some way from the sites of the former bank, as if such retreat was giving a degree of ease to the pressure of the water. This measure ought not to be attempted, but in cases of extreme necessity.

I should rather recommend the standing firm to the sites of the ancient banks, until the sea shall so far gain upon the shore, that the whole works must necessarily be abandoned, for new ones, in a more remote situation. The sea certainly gains upon some parts of this coast, and retreats from other parts; and in the frontage of the parishes
of

of Summercotes and Marsh Chape, some thousand of acres of salt marshes may now be safely embarked from the sea.

Roads. The roads on the South part of this district are, for the greatest part of the year, in a good state; but, in the middle and North parts, they are nearly impassable in Winter; in which season it is a practice to attempt to mend them, as well as in other parts of the county, which requires no comment.

GENERAL

GENERAL REMARKS

OF THE

HUSBANDRY OF THE COUNTY.

FROM the statements hereinbefore made, it must appear, that agriculture has not generally improved in this county of late years; but, I rather fear, has been on the decline: for if we refer to the usage of the common fields, and contemplate those which were originally divided into three parts, one field being annually fallowed, and in succession sowed in moieties, with wheat and barley; and the third season, or what is commonly called the breach-crop, being sowed in moieties of beans and oats. It is very evident, that these fields were first so arranged by our ancestors, with a direct view to a system of farming, and that system was the best that then could be devised.

The uses of green winter roots, such as turnips, cole-seed, or cabbages, now so advantageously cultivated upon the fallows, were not then understood; and the only part of this husbandry, which was in itself bad, was the sowing annually 1-6th part with oats, upon a white grain stubble.

Every one who understands the least of agriculture, must see, that the original intention of our ancestors was, with respect to the division of the land, into three fields; and by their respective equal divisions in the particular sorts of grain they were to produce, to keep off the repetition of the same sort of grain, or pulse, to every 6th year, as follows:

H

1st. Field

1st. Field fallow.

2d. To be sowed equally with wheat and barley.

3d. To be sowed equally with beans and oats, and in routine, that particular sixth part, which in one course of husbandry produces wheat, shall, when it comes round again to be fallow, be sowed with barley; and, as to the breach crop, in the same course of husbandry, that part which is sowed with oats, shall, when it comes round, be sowed with a breach crop, again be beans.

The foregoing course of husbandry is more strictly attended to, upon the poor thin stapled clays in Cambridgeshire, than in any other county; for there, if any infringement is made upon this order of cropping, by the farmers sowing too large a portion of the fallow land with wheat, which ought to be barley; or too large a portion of the breach, or second crop, with oats instead of beans, either of which practices, which bring on a succession of the same kind, or sort, of white grain; to every third year, instead of every sixth, tend to exhaust the soil, and are there called cross cropping; and where the ill-effects of it are frequently seen for two successive courses of husbandry, although the best management shall afterwards be adopted and pursued.

All effects of the like nature attend this practice in every place; but where the soil is good, they are not so immediate and striking. The same intention towards a regular system of husbandry, may be observed, where the common fields are divided into four parts or seasons, viz.

1st.	year fallow	} or {	fallow	} or {	fallow
2	wheat		barley		barley
3	beans or peas		beans or peas		clover
4	barley		wheat		wheat

Wherever oats are substituted for beans or peas, the original intended system is destroyed, and the land is exhausted, and made poor and foul.

An original design towards systematic farming, though more barbarous than either of the foregoing, may be discovered in those common fields, which are divided into equal parts: that is to say, one field being annually in an unproductive state, as before described, in a former part of this publication: but briefly as follows; a moiety of this unproductive field is in a state of fallow, being ploughed three or four times, as preparatory for wheat and barley, in equal parts: the other part of this field lies mixed with the lands in fallow, producing thistles and all other weeds, which are seldom hoed or mowed, and shed their seeds over the whole.

The second field, or a moiety of the whole of the arable land, produces wheat, barley, oats, and beans, or peas in equal parts, in alternate succession.

1st. year	wheat	5th year	barley
2	thistles	6	thistles
3	beans or peas	7	oats
4	fallow	8	fallow

And then it comes again in routine to be sowed with wheat and fallow: hence it appears, that the lands come round according to system, to be sowed with the same kind, or sort of grain, every 8th year; and this system is commonly interrupted, and the land impoverished, when too large a portion of it is sowed on the fallow, with wheat, instead of barley; and oats supply the place of beans and peas. It is in this course of husbandry, with respect to Alford, and other fields, that I recommend clover to be invariably sowed with wheat and barley, as long as the common fields remain unclosed, by which means excellent depasturage for sheep, upon that nutritious grass, would be produced in the 2d and 6th parts of the course, instead of thistles.

If those gentlemen, whether proprietors or agents, who have any concern in the management of common fields, will examine into the present mode of occupancy of the different classes of them, as here stated, they will in most cases find them in a weak impoverished state; and that the original systematic farming of them, is either lost or laid aside, and that the agriculture of the common fields of this county, has rather declined than improved, in the present century.

The agriculture in the inclosures, according to the foregoing statements, cannot have improved, whilst the occupiers have been either under general restraints from applying the soil to its right use, and thereby under insuperable bars to cultivation, with respect to pasture land, which remains in a state of nature; and whilst, with respect to the arable, they have been at liberty to plough and sow it without system, and without restraint. Yet, I must freely admit, that by means of inclosing common fields and waste lands, the science of agriculture advanced the first step towards improvement, but there it has, generally speaking, remained, without making any additional progress.

LIVE

LIVE STOCK.

NEAT CATTLE. The neat cattle of this county are, for the most part, of a large sort. The cows, when fat, weigh from 8 to 9 hundred weight; the oxen from 10 to 12.

They are generally large in the head, horns, bones, and bellies; thick, short, and fleshy, in their necks and quarters; narrow in their hips, plates, chines, and bosoms; high in their rumps, and their shoulders not well covered; their eyes small and sunk. Those bred in the common fields are, from 3 to 5 pounds *per* head, of less value, at 4 years old, than those bred in inclosed parishes; and this difference may be attributed to a neglect of shape more than size, and it may be fairly presumed, that the ill-shapen animal consumes as much, if not more food, than those which are made with more symmetry.

But, whilst I am stating this to be the description of the generality of the neat cattle of this county, I must, in justice to Mr. Tyndall's breed, at Ewerby, near Sleaford; and Mr. Hoyte's at Osbornby, near Folkingham, declare them to be the reverse of the foregoing description; and, that for true symmetry of shape, lightness of bone and offals, great weight of carcase, and aptitude to become fat, they surpass every breed I have before seen in this county: and I am of opinion, that this kind of cattle will be found very little inferior, in point of agility, to horses, in the cultivation of land.

The pasture land of this county is not much used for dairies; and the art of making good cheese and butter is not generally understood.

The

The reason given for this delay of the interest of the occupiers, is imputed to the general good quality of the land, which is said to be too rich to produce those articles in perfection, an inference drawn, I fear, from false premises, viz. that, upon poorer soils, those articles are generally good; whilst the contrary is here found. I should rather apprehend, that the same cause for the delay of improvement in this particular exists, which is found in most other respects, viz. that the general fertility of the land is, in the minds of the occupiers, considered to supersede the apparent necessity for personal exertion; whilst, upon poorer soils, the occupiers are, in a great degree, driven to supply the deficiencies of nature by industry.

An evident want of cleanliness is too frequently discovered in the dairies, in not sufficiently, or frequently, shifting the cream, churning often enough, or properly scalding the vessels; and in making the dairies receptacles for meat, and various other family provisions; and it is frequently found, that the dairies and cellars are indiscriminately used for the same purposes, or placed too near each other, which must always tend to taint the milk and cream. In the construction of farm-houses, there is a general want of attention to the making of dairies in the North sides of them, or in situations out of the way of the farm-yards, and every effluvia which can tend to render them unsweet.

The calves are, for the most part, weaned, and reared. The veal is generally of a very bad quality, not only on account of the coarseness of the animal, but also, from a total inattention to the pursuing of the best methods of confining, suckling, and lodging the animal in the most cleanly manner.

Sheep. I now enter upon a subject which has been very generally discussed in this county, and which has produced

duced much contention and emulation, between the disciples of Mr. Bakewell, and those gentlemen who have adhered to that sort of sheep, which have been most generally, of late years, bred in the county; and the contending parties have now classed them severally under the Leicestershire and Lincolnshire sorts.

From the best information I can obtain upon the subject, Mr. Bakewell's first essay in breeding sheep to perfection, was made from particular sorts, selected from this country; but, probably, afterwards mixed with other breeds, in which he attended strictly to the nicety of shape, just proportion and symmetry of the animal, procuring the greatest weight with the least bone and offal, foregoing for a time, the consideration of the wool, or only regarding it as a secondary object, whilst the Lincolnshire breeders more strictly attended to the production of large quantities of wool, and either disregarded the shape of the animal, or considered it only as a secondary object. The different views and exertions of the Lincolnshire and Leicestershire breeders before described, in a very few years produced a very evident difference, in not only the shapes and appearances, but in the uses of the stock.

During the American war, whilst our manufactures stood still, in which long wool is used, and the Lincolnshire wool was totally unsaleable, Mr. Bakewell's ingenuity was exerted, in an attempt to persuade the Lincolnshire breeders of sheep, that he had a remedy to cure this evil: the position he started, to bring his points to bear, was the following, viz. "It is impossible for sheep to produce mutton and wool in an equal ratio: by a strict attention to the one, you must, in a great degree, let go the other; therefore, I have selected a sort of sheep, with a great propensity to feed, or become fat, and which necessarily must produce less wool, than your old breed, but it will be of a finer quality," &c.

Many

Many followed the pursuit, thus ingeniously recommended ; but as soon as ever woollen manufactures were enlivened by the blessings of peace, and there was a demand for the long heavy wool, Mr. Bakewell produced sheep, not only excellent in shape, but by no means deficient in the most profitable weight and fineness of the article.

The Leicester and Lincoln breeds compared. The Leicestershire are produced with a perfect symmetry of body, light in the neck and head, full in the eye, wide and prominent in the bosom, wide in the shoulders, very long, strait, and broad, in the chine, round in the rib, and full in the twist, with very light bone ; the wool extremely fine and abundant. This animal possesses a wonderful propensity to become fat at an early age : that complete symmetry of shape, and consequent harmony of system before described, must ever have this tendency. We can trace it in other animals, as well as in this, with great precision : for instance, the horse, we commonly call a mould, will retain his flesh, and look sleek and well, under constant labour and fatigue, with the same quality and quantity of aliment, with which a long-legged, flat-sided, beast, working against him would be destroyed.

Swine, of a well-moulded sort, and with a small bone, will keep themselves fat in the common run of a farm-yard, whilst the long-legged, flat-sided, sort, kept in the same way, would be starved. It is a circumstance peculiar to animals of this description, that under the great propensity to become fat, it is laid on equally upon every part of the animal, whilst the long-legged, flat-sided sorts, first acquire fat in a large quantity in the insides, before any is laid upon the carcase ; of course, they are much longer than the other sort in becoming marketable, and on this account, the latter, when fat, are preferred by the butchers.

The

The common run of the Leicestershire breed of sheep produces about four fleeces to the tod, or twenty-eight pound; and the wethers are generally fat, and sent to market as soon as they are shorn twice, commonly called two-shear sheep; and upon an average they sell, at Smithfield, at 40s. *per* head. The Leicestershire sheep, considered as a breed for home consumption, cannot be excelled; but when for the London market, might be improved by being raised a little on the leg.

The Lincolnshire breed of sheep, generally speaking, are of a coarser sort than the Leicestershire, larger in the head, and thicker in the neck; narrow in their shoulders, bosoms, and chines; higher on the leg, not so straight in their backs, with considerably more bone; higher on the rump, upon which is laid a considerable load of fat, called a cushion; and these sheep, when made very fat, are very desirable at the London market, as their hind quarters are cut out in imitation of venison; and, about Christmas, in London, I have been informed, very large fat haunches, are sold much higher than the common price of mutton, and often at near the price of real venison. The average quantity of wool is about three fleeces to the tod, or twenty-eight pound; and the wethers, which are generally kept to be three-shear, before they are sent to market, sell for from 35 to 40s. each. The superior advantage of sending two-shear sheep to market, instead of keeping them to be three-shear, and making no more of them is evident; the additional weight of wool, and the third year's fleece, cannot be equally advantageous, with the production, from the root, of one third more animals of equal value, on the same quantity of land, in a given time*.

* Probably a larger number than 1-3d more sheep may be kept upon the same quantity of aliment, under a consideration of their small portion of food which is required to maintain them at an early age.

Whilst I state the foregoing, to be the general breed of the county, I must observe, that there are breeders of sheep in it, who call them the Lincolnshire sort, notwithstanding as much care and attention has been paid to the selecting the most desirable kinds, as have been exerted by Mr. Bakewell, or any of his disciples. And, in the possession of Charles Chaplin, Esq. of Tathwell, are sheep, which do infinite credit to his judicious choice, and persevering attention in the improvement of the breed. The sheep of the common-fields, I do not bring into this account, from the circumstances of hardship, attending the scantiness of their food, the wetness of their layer, the neglect of a proper choice in their breed, their being over-heated, in being (where folded) dogged to their confinement, where they are often too much crowded; the scab, the rot, and every circumstance attend them, which can delay their being profitable; so that it may be reasonably concluded, that they are of less value than those bred in inclosures, from 10 to 15s. *per* head, and their fleeces are equally unproductive.

Mr. Walesby, and many other improvers of the breed of Lincolnshire sheep, deserve well of the country. Mr. John Codd of Ranby, Mr. Hoyte of Asbornby, and many others, are breeders from the Dishley blood, and, therefore, their sheep have been before described, under the appellation of the Leicestershire breed.

Horses. In the fens, the black-cart kind is chiefly bred, colt foals are sold off the mares, and sent into the high parts of Huntingdonshire, Cambridgeshire, Bucks, Bedfordshire, &c. from 10 to £12 each; and colts, rising two years old, from 18 to £20 each. In the neighbourhood of Long Sutton, there is a breed of horses for the saddle, remarkable for their bone, and activity; sixteen miles an hour is the rate of their trotting, and sixteen stone the accustomed

customed weight they carry, in performing such exertions. Of this breed is Mr. Jenkinson's horse, of Park-lane, called *Pretender*; Mr. King's, of Whitechapel, called *Hue and Cry*. Mr. Wroot's, of Long Sutton, got Mr. Jenkinson's horse, and also a horse of Mr. Allenby's, of or near Horncastle, called *Atlas*. The two latter horses trotted, in 1792, from Huntingdon to Cambridge, being sixteen miles, in an hour, each carrying sixteen stone, for a considerable wager. I have rode Mr. Wroot's horse, which possesses uncommon activity in his trotting, and yet gallops in a superior manner: other parts of the county are not deserving particular attention, as to the production of this animal. It is a practice, with many occupiers of grass land, to purchase bay three-year old colts, at the Yorkshire fairs, to keep them a year, or till they are four years old, although, from the custom of drawing the corner teeth, by which means the last teeth come up a year before they otherwise would appear, and to a common observer, they appear to be five years old. They are made fat, nicked, and sold, at Horncastle fair, to the London dealers, at the customary prices, from 35 to £40 each. They are then taken to London, where they undergo the exercise of the break, or carriage, for a month or six weeks, and are sold from seventy to eighty guineas each, for gentlemens' carriages.

Horses, thus young, being driven hard about the pavement in London, and kept in hot stables, soon give way in their feet, and they become foundered and useless; consequently a much larger quantity of these animals are bred upon our land, than would otherwise be necessary, if they were seasoned, and used for the purposes of agriculture, till they are six or seven years old; and this circumstance must tend to delay the production of beef, mutton, and wool, as far as it goes. Besides which disadvantage, the horse is an impoverisher of the land he depastures upon, in the

same ratio that sheep are the contrary. All horses ought to be kept in confined situations, and fed upon tares, lucern, &c. &c. in summer.

Swine. These animals are generally of a coarse, bony, long-legged, flat-sided sort, and much inferior, in point of make and shape, to the Berkshire, Wiltshire, and Hampshire kinds, not possessing the aptitude to become fat, which ought to be attended to, in the production of this, and every other animal for the use of man.

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M E A N - S
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I M P R O V E M E N T.

I. IMPROVEMENTS IN THE FENS.

IMPROVED drainage. In the southern part of this county, called South Holland, a main cut, or drain, is now making, by authority of Parliament, from a place called Peter's Point, to Wheatmeer drain, near the hamlet of Peakhill. This cut will most certainly facilitate the drainage of this district. And another cut, intended to be made (in a similar way to that of the Eau-Brink cut of the Ouse, in another district,) to confine the course of the Welland to a narrower channel, from a certain point below Spalding, to a more certain and deep outfall than the present, at Wyberton road, will most certainly tend to promote the drainage of Deeping fen, and other low lands in this country. This appears to be part of a scheme suggested by Lord Chief Justice Popham, in the beginning of the last century, and afterwards touched upon by Sir Cornelius Vermuden, Colonel Dodson, and several other engineers of the last and present century; and, it proves, that our ancestors have suffered these excellent plans to lie dormant for ages, as no new idea seems to have been now started upon these subjects, or any thing offered which had not been previously suggested or recommended by antient engineers.

gineers : but, notwithstanding the certain prospect of general good, which presents itself upon the adopting of the last-mentioned plan, it meets with opposition, from local circumstances connected with trade and commerce, which, it is hoped, will be accommodated between the parties before a bill is brought into parliament; otherwise, it cannot be supposed, that the good sense of the legislature will suffer objects, evidently short-sighted, and of a very inferior nature, to weigh against the general improvement of a very large tract of country, which, when improved by the means proposed, will, by the increase of every commodity produced from the land, throw into the pockets of even the opposers of the measure, a very considerable balance of gain, if even the existence of the ground of complaint should be admitted; yet, I must freely observe, that none of these plans seems to me to be sufficiently general and comprehensive. Before new outfalls are made, taxes imposed, and terms settled for watering intermediate estates, &c. &c. the whole country dependent upon, or likely to be affected by, any intended measure, should be invited to partake of the proposed advantage. And it should be pointed out to the parties, how their interests are likely to be affected; and a calculation and estimate should be made of the quantity of water likely to be brought down to the outfalls, upon a *general* scheme of improvement, or, who can answer for their being sufficiently capacious? the imposition of taxes, by the acre, for any purposes of draining whatever are oppressive to individuals (when their amount becomes an object that will amply pay the expence of making distinctions by estimates, &c.), and will remain so as long as the qualities of land shall vary. I recommend all drainage-taxes to be laid according to the value of the respective improvements. This country, though low, and subject to be overflowed in winter, very frequently suffers from drought in summer; as water is obtained

tained with difficulty, in dry seasons, for the cattle depastured on the land; and the retaining of the summer waters, or freshes, in the main drains, in order to scour out and cleanse the outfall at sea, is absolutely necessary, or it would be in danger of being choaked up. This can only be remedied by *confining the rivers to narrower channels*, shortening and straightening their direction to competent outfalls, and, in many instances, it would be a very dangerous practice to suffer the river-waters to be let out, and exhausted for the purposes of the occupiers. I should recommend to the landed interest, to examine carefully for springs of water upon their property, which would be a means of remedying the inconveniences each way, herein before pointed out, and which, I am inclined to think, may be easily brought to bear, at no very considerable expence, in wells and pumps. In the North marshes I have lately promoted the searching for, and obtaining, the uses of inexhaustible springs of good fresh water; and, I lately saw, upon the sea bank at Theddlethorp, a spring of excellent fresh water. An improved drainage of the Northern, Eastern, and Western districts of the fens, may be accomplished in the most salutary way, whenever the inclosure of the East and West fenn commons, and Wildmore fenn, are accomplished by a general well-digested plan.

Wherever engines are necessary to facilitate a drainage, I recommend the steam-engine, to accompany the wind-engines, in a considerable work; because, it too frequently happens, that a calm succeeds an abundant fall of rain, for a considerable length of time. The steam-engine may be immediately set to work, at a time the most desirable, and when the expence of firing cannot be set in comparison with its advantages; and whilst the wind-engines remain useless, and those which will throw up one hundred hog-heads of water per minute, many feet, may be put up at
any

any place near a navigation, for about 6 or £700. Messrs. Bolton and Watt, of Birmingham, are very likely to be enabled to supply them.

Improved Agriculture. It is asserted, by persons very conversant with the open fens, and open marshes, that sheep will thrive faster in exposed situations, than where they are shaded from the sun in summer, and sheltered from the wind and weather in winter. This idea is drawn from an observation, which, in my mind, ought not to be conclusive upon the subject, which is, that when these animals, by any means are sheltered in bad weather, they lie quiet, and have no inclination to stir into the open parts to procure sustenance, and that they evidently, from this circumstance, decline in condition, whilst those in open situations, totally without shelter, never fail to seek for food, even in the snow, and keep themselves in much better condition than those which are sheltered. That, under the shade in summer, sheep will lie so be fly-blown rather than stir into the sun's influence to take their food. For my own part, I should rather be inclined to follow Nature, in the present instances, than to oppose her; and, I am of opinion, that the instinctive faculty points out that which is best for the animal. And pretty good shelter in bad, or snowy and frosty weather, with some good turnips, or cabbages, drawn upon a clean situation, with some good dry rack-meat, will most promote the health, and well-doing of the animal, and the interest of its master. At certain seasons of the year, the flies are equally active; and I am not inclined to believe, and my observations have not led me to admit, that flies will blow sheep, in a shaded situation, in a greater degree than in those more exposed; and it is entirely the fault of the grazier, if he manages his hedges in such a way, that his sheep can lose their
wool

wool by running into them. I recommend the making live white-thorn quick fences, where practicable, not only on account of shade and shelter, but as a means of keeping the flock apart, in dry seasons, and as a means of preventing very young stock from being drowned in wet ones.

Not to suffer neat cattle and horses to poach up the land in winter, but otherwise to confine them in warm fold, or crew yards, where they should be foddered according to the purposes for which they are designed. To bring home to a convenient place, and there stack all hay or fodder, not only to prevent the land being poached in the fields, whilst it might there be expended, but in order to save the manure, in a compact body, which is not only the better fermented, and stronger on that account, but may be carried to such parts, and distributed, where the land stands most in need of it; instead of its being wasted, and lost to the occupier.

If the practice of paring and burning should at any time be absolutely necessary, in order to get rid of a variety of coarse productions, which cannot be subdued by any other means, I should recommend its ever afterwards being abandoned, as a practice highly prejudicial to a farmer's interest*. For that soil, which is already too light, requires not ashes to be mixed with it, the surest means of making it lighter; that soil, which is already too low, requires not to be subtilized with fire, the surest means of reducing its quantity, and of course the making it lower. "This practice has Idleness for its parent, and Poverty for its offspring."

I rather recommend the management of the fen land, in similar ways to those which are practised by the best cultivators of light upland soil.

* My publication, in 1785.

1st. To fallow and manure for coleseed, cabbages, or turnips, and to cultivate that sort of green vegetable which will best suit the soil.

2d. To sow barley, if the land is not adapted for barley, then to sow oats, and, with such spring crop, to sow such mixtures of ray-grass, trefoil, or clover, as will be best adapted to the soil, to remain laid down therewith two years; but, if the land is very light, to lie three or more years.

3d. The turf so made, to be broke up in February, or as soon afterwards as possible; and to cultivate beans, pease, tares, or other pulse, thereon to be drilled or dibbled.

4th. To cultivate wheat in the same manner, or to sow wheat upon a clover lay, if the land is very light, then to make a mixture of wheat and rye, afterwards a fallow for a green vegetable crop.

One of the principal arguments commonly used to support the practice of paring and burning, is, that by such means grubs and worms, with which this kind of land is generally infested, are thereby destroyed.

The case is not quite so bad, where burning is practised, as this argument would lead to. The whole of the soil not being burnt, and of course the whole of the grubs, &c. worms, deposited therein, cannot be destroyed; besides, the sods undergo a process in being dried before the burning commences, of course, during that time, the insects may retreat into their natural element, and shrink from the fire; and, I am of opinion, that if a heavy roller was to be used, by day, upon this kind of land, at different seasons,

seasons, whenever it is laid down in grafs, and at many other times, and a lighter one by night; the insects which infest this kind of land, would very soon be more effectually destroyed, than they could possibly be by paring and burning; for they certainly come forth, upon the surface, to seek their food by night, and if the soil is compressed by the roller by day, those which are too remote from the surface, to be thereby destroyed, make their retreat from the surface with more difficulty by night, on account of its being made more compact, and are thereby more easily destroyed.

Various arguments have been used, with a view to prove, that beans are not properly to be cultivated upon fen land; the most formidable one is, that they commonly run up to straw, and bring but little corn; the fact is, that they are generally sowed too thick, and upon soil which brings forth every seed, that is sowed upon it, in due season; it is no wonder that the earth should throw forth a larger infant production, than she has power to bring to perfection, and more especially, as, by such an abundant production, the air is in a great degree excluded, and thereby the means by which the generation of the plants should be produced, is lost. And, it sometimes happens, that when the plants are disposed to the best advantage for want of a seasonable draft of air, or a proper flock of bees, this natural process is delayed, and the crop is thereby lost.

Let beans, and such like productions, as well as all other corn seeds, be put into the ground a competent width from each other, and we shall find nature, equally kind to all, will give your plant a stem sufficiently strong to bear its burthen, and an increase, duly proportioned to its height, and that height will be apportioned to the abundance of the food for the plant, deposited in the soil, the drill, and the hoeing husbandry, are well adapted

for the fen soils ; and if they were not to be repeatedly cropped, and driven out of heart, green vegetable crops might be obtained in perfection, without the process of fallowing being much used ; a circumstance very desirable, because light soils are best managed, when not pulverized, and turned about ; for the more compact they are kept, the better ; and a heavy roller will be a better friend to the fen farmer, in the long run, than a thousand paring ploughs.

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2. IMPROVEMENT OF THE STRONG LOAMY AND CLAYEY SOILS.

FIRST, with regard to the inclosed land, I recommend that the soil shall be applied to its right use: that is to say, such parts of the pasture land, which are best adapted to the arable, shall be converted to such use, and such parts of the land, now arable, which might be better laid down for pasture, shall be so used.

There is not a circumstance in agriculture so little understood, as the *application of soil to its right use*. And, independent of local circumstances, such as the vicinage of large towns, homesteads, or convenient spots near farmyards, all light soils, and all thin stapled clayey land, are ill adapted for perpetual pasture; as they are subject to be too suddenly affected by dry weather, to crack, and fly to pieces hastily, and thereby the roots of the plants are either destroyed, or very much checked, by being broken, and split to pieces, and the sun and air are let into the soil to dry them up, to the great detriment of the occupier.

If I were to fix a criterion of the land which is best adapted to be laid down for perpetual pasture (independent of local circumstances), it would be, that which has such a depth of soil, that no cracks, or fissures, in the driest summers, are produced in it. I am confident that a very considerable portion of land in this county, now in a state
of

of pasture, might be changed to arable, to the great advantage of both the proprietors and occupiers.

In particular situations, where it might be desirable to keep the land in a state of perpetual pasture, ploughing it up, and cleaning it, by means of fallowing; and a well-chosen course of cropping, for five or six years, and then laying it down again with the best grasses, to be sowed with a first crop of grain, after a good fallow, and a green vegetable crop to be eaten off by sheep, would be a means of improvement, which is not calculated upon in this county.

It is not only an unsightly appearance, but a distressing circumstance to the renter of pasture land, of which, considerable portions (in many instances two thirds of the fields,) are occupied by large ant-hills, producing four, coarse, husky, sedge, or sword-grass, of no value, as it possesses no wholesome quality; and no animal in the creation will depasture upon it. Let any persons, even those unacquainted with the improved agriculture of the kingdom, walk into fields of this description; they will immediately observe, that the land between such ant-hills is wholesome and nutritious, and they must make an immediate comparison; the result of which is, that the sedge coarse ant-hills are quite the reverse, and, in proportion as such land is covered with a production wholly unprofitable, the interests of the proprietors and occupiers are delayed; for instance, if I occupy a given quantity of land, at seven shillings *per* acre, two thirds of which is covered with ant-hills, as before described; I may justly consider the only useful and profitable part of my land, as rented at a guinea *per* acre.

Different methods have been suggested, and means tried in the best-cultivated counties, for improving land, thus situated, without ploughing it up.

1st. By means of paring off the sedge, and carting it to a mixtion of lime and dung, and spreading the soil and manure upon the land after sowing grass seeds, upon the base of the ant-hills.

2d. By paring and burning the sedgey hills, sowing grass seeds, and strewing the ashes upon the scarified parts.

3d. In paring off the superficial part of the hills, throwing the soil contained in them about the land, and laying such superficial parts down upon the bases of the hills; a process commonly called gelding them.

The latter practice I have seen answer tolerably well, where the surface of the hills has produced a middling good herbage, and where it was an object with the occupier to continue the land in pasture, on account of some local considerations; but this process, when judiciously performed, was three years in being brought about upon a given spot; for apprehending that the best of the land would be over-burthened with dead earth, only each third ant-hill in a field was annually gelt, or thrown down. In all cases where the hills cover a considerable part of the land, and their produce is bad, I recommend the ploughing it up, and converting it to tillage for one course of husbandry at least, that is to say, for five or six years.

I confess myself to have no prejudice for pasture-land, as such, I am always inclined to apply the soil to the most immediate profitable uses it is capable of, consistently with the preservation and improvement of the inheritance in it; for, in proportion as the value of the land is diminished, by bad management, the rent is nominal, and a proprietor is receiving, as such, a part of his inheritance. All land subject to be overflowed by rivers, and in the vicinity

nity of large towns, and in any other situations, where it has an additional value stamped upon it, for the conveniences it affords, ought to be continued in pasture (except small portions used as garden-ground); but in more remote situations, it behoves every proprietor to apply his estate to the most profitable uses. I am confident these opinions will meet with opposition from men, who are unacquainted with the most approved practical husbandry *, and who, as agents or surveyors know not how to apply the soils to their right use, nor how to lay down the regulating systems of agriculture, adapted to each soil, in order to preserve and improve the estates; for it is impossible, that mere measurers of land, or persons never having resided seven days in their whole lives in a well-cultivated country, and who have been constantly plodding in a district, where its agriculture is more than a century behind many other counties, should be competent to a business of this nature; as reasonably might we expect an hedge carpenter, successfully to amend a Cremona fiddle.

It is perfectly clear to me, that such land as is good pasture, would be equally good arable, if it was to be applied to such purpose, and, in many instances, more profitable to the occupier in that state †. There cannot be a greater

* Amongst other arguments which will be used against the measure of converting pasture land to be arable, it will be said, that by such means the quantity of cattle, sheep, and wool, will be diminished; but will not the art field grafs feeds produce cattle and sheep; and, upon a general plan of applying the soil of the kingdom to its right use, will not much land now arable be made pasture? and will not the value of corn, and cattle, produced on our land, average themselves in value in every four years? If we find a want of sheep, or cattle, will not their value be increased; on which account, will not the farmer lay his arable land down with feeds, and produce cattle and sheep, until the balance will preponderate the other way in favour of producing corn? and then the land would be again broken up.

† It has occurred to my observation in practice, that a farmer's team of horses have been depastured a whole summer upon twenty acres of pasture-land, of the yearly value of 20s per acre, whilst three acres of the same land in lucern, and two acres of tares, properly mowed in rotine, would have better maintained them.

absurdity

absurdity in practice, than that of regulating farms to consist of certain portions of pasture and arable; without first considering for what particular purposes the soil is best adapted. *There is very little arable land in the kingdom, or land now pasture, proper to be converted into arable; which, when in that state, will not come on in rotine to be laid down in third, or fourth parts, with artificial grasses; and, when so laid down, in proper condition, will not produce nearly as much food for animals, as the whole would furnish, if continued in the ordinary state of perpetual pasture.*

I should recommend that every farm consist of a portion of arable land, being at least one third, if not one half, of the whole quantity, even where the land is found in a fair condition as pasture; because, unless an occupier has a sufficient quantity under the plough, to enable him to cultivate every year a regular apportionment of green winter-food (such as turnips, cole, or cabbages,) and artificial grasses and corn, the greatest advantage both in the means of fertilizing the whole farm, and applying it to its right use, is lost to the occupier. For, under well regulated systems of farming, with a meliorating crop of peas, beans, and other pulse, interwoven between white grain crops (under the drill and hoeing husbandry), arable land will be supported in good condition for ages, with only a small proportion of the manure arising from the fold-yard, and the residue of the manure may be applied *to the improvement of the pasture land*, which may in a great measure be advantageously spared from the scythe, on account of the mowing of the clover, or other artificial grasses for hay. Circumstances of great advantage, when compared to the impoverishing mode of mowing annually a considerable quantity of the pasture land for hay, where the plough is restrained, and where, for want of straw, no warm lodging for cattle, by means of well-littered crew, or fold-yards, and no valuable manure, can be had; of

course the cattle, in such situations, poach up the land in being foddered in open places, and drop their manure, where it cannot be of any possible benefit, besides the advantages before alluded to (in applying a part of each farm to purposes of cultivation) sheep may be bred, to supply the grazing, or feeding part of a farm; advantages, when united, highly beneficial to the occupier. But, in regulating this system, I am aware, that there is danger in settling about it, where the persons who have the superintendence of landed property, are not well skilled in the best modes of agriculture to be adopted, or who do not possess industry and attention in seeing them carried into effect, and so maintained; and, I am confident, that for want of attention to such qualifications, or the due application of them, (and an idleness encouraged by the natural fertility of the soil,) the agriculture of this county has remained in the present unimproved state.

The drainage of this description of property is generally neglected; the ditches ought to be made in a competent manner, to prevent the soak of one field injuring the produce of another, and to carry off the water which falls upon it, and also by means of hollow drains, the springs that rise thereon. I recommend the main drains to be made, in most instances, not less than five feet wide, and four feet deep, with a general connection to an outfall, funnels being turned over gate-ways of equal depth with the ditches. The lands which are ridged up to a great height to be ploughed, lowered, and made of less width, by any means, the most effectual to prevent the burying the natural soil, and the bringing a dead earth upon the surface in its stead.

The live fences to be repaired by means of well-trenching the vacant places, planting them with white-thorn quick, to be well hoed, and guarded by good fences, from being injured by cattle and sheep, and where the white-thorn

thorn quick is not supposed to be likely to grow, to substitute crab for it.

To prevent the trimming up, pruning, or lopping the timber and timber-like trees, which are generally much injured by this practice; for it is necessary that the dictates of nature should be more attended to: every plant and tree requires a due proportion of foliage, to promote its health and improvement.

Not to plant any trees in hedge-rows, because they dweep upon the quicks, and prevent their growth, shade the land, and when cut down, make very unsightly and inconvenient gaps in live fences. If wood is necessary for the support of an estate, a portion of land should be set apart for its production.

To divide the ground by live fences into the most convenient sizes; that is to say, at least into as many separate parcels, as, according to the size of farms, and the courses of cropping best adapted to the soils, will keep each production separate. In large farms it would be proper to have double that number of parcels, for instance, in a course of cropping, of six parts, to have twelve fields, &c.

To promote the building of farm-houses, barns, &c. in the most central situations.

To perform all the business of a farm with oxen, where their poaching will not be more prejudicial, than the treading of horses: except, in such cases, where a good deal of travelling on hard roads is necessary, in which case, four or five horses must be kept.

Not to wear out any animals in the cultivation of a farm, but to sell off horses before they are much past their prime, for other purposes than those of agriculture, where aged seasoned horses are required, and to feed or fat cows, swine, and ewes, before they decline in value.

To procure the most useful and profitable breeds of each particular kind of stock.

To use an heavy roller, at seasonable times, upon all pasture, and land sowed with grafs seeds, at Spring and Autumn.

To provide comfortable habitations for the necessary labourers on each farm, with a convenient garden, and depasturage in summer, and winter food for a cow to each cottage, at a moderate rent; this will be a means of attaching them to a farmer's interest, in proportion as they regard their own, and of promoting population, in proportion as the means of producing it, are improved.

By no means to increase the number and size of farms upon these soils, which will be found most profitably cultivated in many hands.

Inclosures. In allotting the lands upon the inclosures, it is proper to consider the occupiers as to the size of the respective allotments, as so many proprietors, allowing them their several occupations, changed into a new and improved shape, to make the allotments as nearly as possible in squares, considering the central situation of farm-houses, and necessary buildings, as the first and best object of inclosing.

The application of the respective soils to their right uses, together with the improvements recommended upon the inclosed land, I hope to see adopted, or any other plan which can ensure more public and private advantage.

No circumstance tends more to bring the measure of inclosing into disrepute, and to render the advantages which should result from it doubtful, for a considerable time after it takes place, than (in situations where the tenants are not under any regulations with respect to the management of the land, or under any restrictions to prevent abuses) the agitation of the subject for two, three, or more years, before an inclosure takes place; during which time, such occupiers withhold a very considerable part of the manure,
which

which in regular order ought to be laid upon the land, and repeatedly crop, and work it out of course, and out of heart. Where this practice is general in a parish, it has no effect upon the quantity of land to be returned to the respective proprietors when it is allotted: but where it is partially pursued, it very considerably affects the interest of a proprietor. And in every instance where such mismanagement is pursued, it tends immediately to increase the labour of the occupier of the new allotments, and to delay his interest for a considerable length of time, after an inclosure takes place.

It is absolutely necessary, in the foregoing case, that regulations should take place to enforce good husbandry without delay, where an inclosure is intended.

3. IMPROVE

3. IMPROVEMENT OF THE WOULDs,

OR,

LIGHT LOAMY AND SANDY SOILS.

I RECOMMEND the inclosing common-fields and waste-lands, and reducing the size of large farms, already inclosed, by dividing them, and building necessary farm-houses in central situations; not suffering any farm to exceed 800 acres. And in proportion as the soil is found to be good, to decrease the quantity of it in the hands of the respective occupiers, for the following reasons, viz.

1st. That occupiers of small quantities of poor soils do not generally possess the means or ability to get into any great schemes of improvement, which are attended with very considerable expence on the outset; where either clay or marl are efficiently applied; on which account it is necessary, that considerable quantities of land should fall into the fewer hands.

2d. That, where the soil is naturally fertile, and does not stand in need of foreign aid, there is not a necessity for the occupier immediately to lay out any considerable sum, with a view towards future benefits to be derived from it; and the occupancy of a small portion of such land, in the management of which there is generally a larger portion of profit; for a smaller portion of labour, than must be applied to poorer soils, when out of condition, will afford a small farmer the comfortable means of supporting a family with credit. And, I will venture to hazard an opinion, that farms, properly laid out, according to the nature of the
respective

respective soils of the yearly value of from 40 to £200, are the most desirable for the proprietors, and to the community *, where such regulations are adopted.

If the necessary buildings are judiciously constructed and properly adapted to situations and circumstances, the occupiers can afford to allow the proprietors such additional rents, as will amply repay them, even if the progressive improvement of their property was not thereby facilitated. The mere circumstance in reducing the expence of labour, in having farm-houses, &c. placed in the centers of the occupations, would enable an occupier to pay a full interest for the expences of erecting them.

Farms thus laid out, would tend to excite general emulation and exertion amongst the occupiers. The small occupier would see before him the certain means prepared for his rising into a larger occupation as his exertions were crowned with success. A large production of the small articles raised upon the land, such as pigs, poultry, honey †, &c. &c. will be insured to the great advantage of the community; regard to such trifles being generally considered unworthy the attention of the monopolizing farmer.

It is extremely desirable, where consistent with central situations, that farm-houses should be placed upon the highest parts of farms, because the most laborious part of the regular process upon a farm is drawing out the manure from the fold-yards, which is easiest performed upon ground which slopes from them.

Farm-houses placed in vales, and low situations, have generally their manure much wasted by water running through them, and carrying with it the essence of the manure.

* In this idea I am happy to observe, I have the coincidence of Mr. Kent, a gentleman well known for his skilful practice.

† Bees are wonderfully advantageous, not only as the honey is valuable, but that they promote the generation of plants.

I recom-

I recommend that all farm-yards be made in the form of a shallow-dish, the depth of which should be proportioned to the circumference of them, with one or more tunnels laid into each, in order to carry off the superfluous water, when they shall be over-charged; which occasional overflowing should be confined to a reservoir adjoining, whence the water, impregnated with manure, may be returned, or thrown upon the dung, &c. when it shall be laid in a heap, or otherwise become too dry for fermentation.

To grant leases of farms for terms of years, proportioned to the nature of the improvements, which will insure the cultivator not only a repayment, but a competent reward for his skill, labour, and first expence.

With proper attention to the best mode of making ponds, and reservoirs of water, preventing absorption, and also exhalation, by properly planting around them; almost every situation will afford the means of collecting, and reserving a sufficient quantity of water in winter, for a summer's consumption: and if I may be allowed the very probable means of raising water from wells, in almost every situation, there will be but little doubt of success in this particular.

To build or provide a cottage, with a suitable spot of garden-land, and the means of maintaining a cow both in summer and winter, for each necessary labourer, employed upon an estate, and probably it will be found advisable to place such cottages near, or adjacent to, each other; which will be a saving in point of expence, and the means of making the conduct of each individual known to his neighbours; from which circumstance a degree of caution, and even forbearance may be produced. To divide the enclosures into such sizes which will be best suited to the routine of husbandry, and extent of each occupation. To

pursue courses of husbandry, adapted to the nature of the soils to be brought into cultivation, like the following :

Viz. Upon that of the strongest nature, or First Class.

1st. year, fallow and turnips ; 2d. barley, sowed with rye-grass, trefoil, and clover ; 3d. grass seeds ; 4th. grass seeds ; 5th. broken up in February, and peas dibbled or drilled in ; 6th. wheat, afterwards to be fallowed.

SECOND CLASS.

1st. year, fallow and turnips ; 2d. barley, sowed with rye-grass, trefoil, and a small portion of red clover ; 3d. grass seeds ; 4th. grass seeds ; 5th. grass seeds ; 6th. peas drilled in ; 7th. wheat, and, if its bearing of wheat is doubtful, to mix one third rye, then fallow again.

THIRD CLASS.

1st. year, fallow and turnips, (eaten off) ; 2d. barley sowed with rye-grass, &c. ; 3d. grass seeds ; 4th. grass seeds ; 5th. grass seeds ; 6th. grass seeds ; 7th. peas or tares, dibbled or drilled ; 8th. wheat and rye mixed, two thirds of the latter.

FOURTH CLASS.

1st. year, fallow and turnips, (eaten off) ; 2d. barley, rye-grass, &c. ; 3d. grass seeds ; 4th. grass seeds ; 5th. grass seeds ; 6th. grass seeds ; 7th. tares, dibbled or drilled in the spring, afterwards fallow for turnips.

Courses of cropping, thus adapted to the respective soils, will keep each in the highest state of condition it is capable of. Very light soils will not bear a quick repetition of the same sorts of grain, and are profitably productive no

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longer than whilst the good effects of the turf remain in them, thus promoted by sowing rye-grass, and artificial grasses *.

With regard to the raising of live fences upon the different classes of these soils, I recommend as follows :

Viz. for the 1st. class, white-thorn quick ; 2d. class, ditto ; 3d. class, crab, with two rows of gorse, sowed in drills on the North and East sides of a bank, about eighteen inches apart from the quick, and twelve inches from each other ; 4th. class, 1st. row crab, 2d. row birch, twelve inches from ditto, and two rows of gorse.

I particularly recommend, that quick be not transplanted from a richer soil, where it is raised, to a poorer ; but, as equally as possible, to soils of the same nature and quality. Whenever this error is committed, the plants cease to improve for a considerable length of time, and until new roots and fibres are formed, enlarged, or contracted in a competent manner, to receive or imbibe that kind of food, nourishment, or support, which the respective soil, where it is planted, shall afford, until this process is performed, the plants become dried, bark bound, and stunted ; from which condition they never recover, until they are cut up at the root, which often delays the growth of the fences for three or more years. And this is the case with every kind of tree or plant in a greater or less degree, from which condition such plants as are intended for timber never recover, as they cannot be restored by the same means, when treated contrary to the rules I have laid down.

* Light sandy, and very light loamy soils are rendered more light by being too frequently ploughed and harrowed. By sowing a portion of clover and trefoil with the ray-grass, the latter acquires additional vigor, upon the decay of the former ; the clover is overpowered by the ray-grass in the second year ; and the trefoil in the third and fourth years ; poor soils are, when under the best management, longer in acquiring this necessary turf, than those of a richer nature. The methods here recommended are agreeable to the most successful practice in the Eastern part of Norfolk, where I was bred up a farmer.

I recom-

I recommend the cultivation of a few acres with carrots, parsnips, and potatoes, upon every farm, annually, as a means of feeding cattle and swine to great advantage. The latter animals are more valuable to a farmer than any other, for the following reasons: 1st. They yield a greater profit in a shorter time than any other animal; 2d. They are not subject to the losses and casualties which other animals are subject to; 3d. Their manure is more valuable than any other animal.

I do not mean to be understood, that a farm ought to be wholly stocked with swine, but that a considerable number ought to be kept by every farmer; that is to say, upon a farm of £200 *per annum*, consisting of two thirds under the plough, 100 head of swine might be annually produced, of the average value of 40s. kept or folded upon tares and clover by day, and brought into a fold-yard by night.

4. IMPROVEMENT OF THE NORTH

AND

LOW MARSHES.

I RECOMMEND, that the drainage of this very valuable tract of country, be taken, by act of parliament, out of the management of the commissioners of sewers, and divided into two, three, or more districts, as shall, upon investigation, be found necessary, for the better drainage, and management thereof. For the land-owners in each district, by ballot, or any other more eligible mode, to delegate their interests into the hands of three or more commissioners, well skilled in the art of embanking and draining, subject to their controul, and removable for misconduct.

To connect the embanking, and draining of each district together, as if it was the property of one well-regulated family; making each respective part of the property contribute its share of expence, in proportion to its share of advantages, to be derived from any improvements.

If a plan of this kind were to be adopted, we should not see the occupiers of a frontage town, letting their bank fall, from wilful neglect, in order, that when it shall be condemned, the whole level may contribute to the expence of a new one; in which expence their share would be less (as part of a large district) than otherwise in doing their duty by upholding their embankment, as occupiers of a frontage town. We should not see the water held up by narrow passages, and crooked rivulets, over-flowing large

large tracts of high land, from the fear of letting it down upon works below, incompetent to carry it to the sea. We should not see some towns well drained, whilst others adjoining to them, equally capable, are overflowed. All these evils may be speedily cured, and an immense general saving had, by adopting a plan, similar to this which I recommend; for, by connecting the embankment, and draining of a whole country together, the works will be constantly attended to, and well secured; the water will be collected together, and carried off in larger bodies to the sea, in the most advantageous places, by which means it will have competent power to scour out the outfalls.

The number of goats may be considerably decreased, and larger portions of fresh water may be spared (if necessary) for the cattle in summer, than at present, whilst almost every frontage town has a goat, to which, (in order to preserve any kind of effect,) all the water that can possibly be collected must be sent. I farther recommend, that the ant-hills are leveled upon the pasture land, and upon the arable a similar mode of cultivation adopted, as I have advised, upon strong loamy and clayey soils.

With regard to the roads, I recommend that all carriages are confined as much as possible to pass in dry weather, and that all attempts to amend them are confined to that season. Good materials for making roads, are obtained with great difficulty and expence in this district. In proportion as such materials are weak, the more of them are necessary, and, when applied, they might be more confined in width, than is the general practice, to be made up in depth. Within a reasonable distance of the sea-shore, materials may be had and fetched for the making of the roads to be used as I have pointed out; and, upon properly searching, it is highly probable materials may be found in more convenient situations. If my plan should ever be adopted, for improving the drainage and embankment of
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the marshes, a clause may be introduced into an act of parliament, for the purpose of improving the roads.

And upon this coast, between the port of Boston, and the Humber, it may be considered advisable, upon a proper investigation of the subject, to make a port, for the promoting of trade and commerce.

And, probably, if a victualing-office were to be established at Boston, for curing beef and pork for his Majesty's service, it may be considered very expedient; because near ten *per cent.* is lost in the expence of driving cattle, &c. from the adjacent country to the London market; and the cattle thereby heated, and rendered less desirable for the purposes required; from which circumstance, if the measure I have pointed out were to be adopted, the business of slaughtering, and salting, might here be carried on a month later in the season than at Deptford.

5. IMPROVE-

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5. IMPROVEMENT IN TIMBER

AND

UNDERWOOD.

THE first thing which claims our attention is, a due investigation, whether land, which is now used for the production of timber, is most profitably applied to such purpose, under a due consideration of the nature of the soil, and its local situation and circumstances? The second, whether such timber is adapted to the soil upon which it is produced? I am of opinion, that all land of an high quality, viz. from 18s. to 25s. *per acre*, might be the most profitably applied to the purposes of cultivation; the advantages to be derived from an annual rent, produced from corn, grass, &c. with its accumulating compound interest, will, in a term of years, ~~be~~ necessary for bringing a crop of timber to perfection, ~~and~~ produce a much larger sum than can be reckoned upon it.

Various calculations have been made, upon the probable advantages to be derived from the cultivation of oak timber, but such calculations are wholly founded on conjecture, as the probable term of human existence falls so far short of that length of time which is necessary to bring this plant to perfection, upon soil the best adapted for its production, that regular periodical, and competent observations, in particular instances, are lost or hidden from our enquiries.

It is difficult to set apart any spot of land, as best suited for the production of oak timber, which has not already produced

produced it, because so much depends upon the substratum of soil through which the tap-root ought to find an easy progress, in regular approaches towards perfection: any inequalities, by means of stony or hard bodies, which it may meet with in any stage of its growth, will certainly retard the vigour of the plant, and make it become stunted, of which the superstratum of soil gives no indication in the first instance to govern us. Space is necessary to be allowed each plant, by regularly thinning of woods and plantations, in order that the expansion of the branches of the trees may not be too much impeded; a due proportion of branch and foliage being as necessary for their health and support, as it is for the roots to remain unimpeded. Particular instances have occurred, where a large quantity of timber has been produced in high perfection, where the trees have been very thick, with but little foliage; but it has been in those situations, where the soil is extremely deep, and rich, making amends for the exclusion of a very considerable part of the atmospheric nutriment, which, on soils less fertile, is absolutely necessary to be imbibed by the plants for their health and support. If the oak has space for its branches to expand themselves, fifteen trees, containing on an average from 80 to 100 feet of timber each, will cover an acre of ground. And unless, as in the case before stated, the trees have sufficient room for expansion of their branches, their growth will be impeded in proportion as they are cramped. Thin stapled clays of a low quality, such as are found in the west part of Huntingdonshire, and the high parts of Cambridgeshire, now let from 5 to 7*s.* per acre, are probably well adapted for the production of timber and underwood; and, upon the poorest cold soils of this county (though the quantity is small), timber and underwood should be continued where found, and improved on land where it is planted, and similar soils should be converted into wood-land.

It

It is impossible that timber and underwood can be any where raised upon a given spot in a mixed state, in as large quantities, and to as much perfection, as they might be separately; yet a very considerable head of timber may be raised, in succession, with a good crop of underwood; and I consider this to be the most profitable mode of employing such land, by which means the present generation, as well as posterity, may be benefited; and the land thus made much more productive than it would be, by the separate cultivation of either timber or underwood, because the substratum may be fully employed in raising the most valuable crop of underwood; being that, for which the soil is adapted; an advantage which may probably be found applicable to the necessities of the country where it shall be produced, and of a much higher net annual product for rent than would be made of the land, in any other mode of occupation; whilst the substratum is productive of a succession of timber of considerable value. I cannot close this remark, without observing, that the general mode, in which gentlemen permit their woods to be managed, is not the best that can be devised. I recommend that forest officers, stewards, agents, and woodmen, shall have regular fixed salaries, and that they shall not constantly have it in their power to take advantage of their own wrong-doing; for, according to the present mode, pretty generally adopted in the falling and converting timber, it is customary for them to take part of the property in bark, topwood, &c. &c. or poundage, as perquisites of office, upon the sale of it; and therefore, whilst the quantity annually to be cut is limited, it is their interest not to cut down such trees as are mature or decaying, but otherwise the most ~~trifling~~ ones which would, according to the best mode of employing the land, pay most for standing longer, and which will consequently produce most bark, and top or lop-wood: and when gentlemen of landed property shall, from experience, feel the necessity,

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thriftly

cessity, for giving more attention than at present, to the improvement of the agriculture to be adopted upon their estates, men of skill and experience will be employed to superintend them, at such salaries as will not only make them respectable, but will place them above the temptation of abusing the trusts to be reposed in them. I take the liberty of recommending to the Board of Agriculture, and to gentlemen of landed property in general, the measure of promoting the education of young men for the offices of surveyors and land-stewards, in the best cultivated counties, by means of sending them to assist in the best practical husbandry of Norfolk, Essex, Suffolk, and Hertfordshire; and the breeding, feeding, and improvement of cattle and sheep, now so successfully practised in Leicestershire. And, that all persons who shall in future be disposed to practise as surveyors, should give their names to the Board of Agriculture, stating their pretensions, in order that they might undergo an examination, in a similar way as candidates for other professions; and, upon being appointed, to receive certificates for their qualifications. If a plan, similar to this, were to be adopted, such men as had expended their time and property in acquiring the fundamental instructions for a competent knowledge of agriculture, upon which subsequent experience have been grafted, would have a fair prospect of success, from their exertions; and the interests of the community, as well as that of individuals, would be essentially promoted.

MISCELLANEOUS OBSERVATIONS.

FINES arbitrary, Herriots, &c. &c. I recommend upon all inclosures and divisions of landed property, and in every other case where practicable, the enfranchisement of copyhold estates, from arbitrary fines, herriots, &c. For whilst the lord of a manor is entitled to two years improved value of them, upon the death of a copyhold tenant, or on the alienation of the property, particular cases every day occur, to prevent the tenants from expending their property in the improvement of them.

Commerce and Manufactures. The principal ports in this county are Boston, and Gainsborough; whence corn, potatoes, oak and other timber, hemp, flax, woad, and other articles the produce of the county, are occasionally exported to the London, and other markets. The imports are chiefly coals, fir timber, &c. &c.

The means of making such exports, and imports, may be said to be beneficial to agriculture, and have long given this county the superiority, in point of situation, to many other counties, of which the inhabitants, from an indolence or supineness, commonly inspired by an abundance of natural gifts, have not availed themselves; now, the introduction of inland navigation, will put the inland counties, for a series of years, at least, upon a footing with it; which will continue, until the vast beds of coals in them shall be exhausted, whilst our manufactures increase, or until improved agriculture shall so far increase, that the produce of the soil shall exceed the possible consumption of its

inhabitants. This county has been remarkable for its manufacture of stuffs for ladies apparel, the spinning of which has been chiefly performed by their fair hands; this manufacture was promoted with great spirit by Lady Banks, and several ladies and gentlemen of extensive landed property, and unbounded philanthropy, during the American war, when long wool had no market; thus to induce the inhabitants, in some measure, to provide for themselves a remedy, for the then general decay of manufactures, and commerce, and since the necessity for the measure, in a great degree, has been removed, an annual ball has been continued in the county, in commemoration of so laudable an undertaking, which is well attended by the nobility and gentry, where the native charms of ladies (if possible) receive an additional lustre, from the simple elegance of their dresses, chiefly composed of Lincolnshire stuffs.

At Epworth, there is a manufacture of sackcloth, but it is not carried on very extensively; in many other parts of the county there are manufactures of coarse linen cloth, also malt-houses, and breweries, and many other articles of common home consumption are made, but not of sufficient magnitude to deserve particular notice.

Roads. The roads of this county may be considerably improved, by common attention to the searching for the best materials each district affords; and to the using them in the summer season. The present practice is more confined to the winter, being a season when the farmers consider themselves most at leisure to prosecute such business, which produces them the least immediate gain.

Improvements. There are no societies instituted for the improvement of agriculture. The tenantry, who for the most part are occupiers from year to year, have no incitement to exertions

tions of skill, they either want a certainty, or security (by means of leases), for being reimbursed the expence of any improvements, that might be considered practicable, or they (in general) are fearful of shewing any inclination towards improvement, lest a speculation should be made upon them, in an untimely, unqualified, and unjustifiable, advance of rent.

The only means of exciting a general spirit for improvements, would be, by granting leases, under regulations, to enforce the most approved methods of agriculture, which are adopted with success upon soils of a similar nature; for gentlemen of extensive landed property, to shew the way, by undertaking the occupancy of parts of their estates under the best *practical systems* of Norfolk, Essex, Hertfordshire, &c. &c. and the choicest breeds of cattle and sheep, to be found in England, rejecting experiments for a time, or leaving it for the active zeal of Agricultural Societies.

ON THE USE AND ABUSE OF LEASES.

THE gentleman of landed property, who should make a resolution not to grant any part of his estate upon a lease, would commit as great an error, as he who grants the whole in that way. There are but few estates, that are so circumstanced, as not to admit of improvement; few on which an occupier of abilities might not lay out a considerable part of his property, for the sake of future advantages to his landlord, as well as himself. On this account it is reasonable, that he should be secured in his expectations as far as human foresight will allow; and this is most effectually done by a lease. Though a gentleman's word may be as binding to him as his bond, his successor is not bound by it; therefore a farmer cannot be expected to lay out his money, which is often the dependence of a family of children, upon the uncertainty of an occupation from year to year. Such gentlemen as are determined not to grant leases at any rate, must be content to let their estates beneath their real value, and neglect many useful improvements, which would tend to their own, the tenants, and the public advantage.

Many gentlemen of this temper, possess a pride in not raising their rents, and esteem all others poor, who attempt to make a fair income of their possessions. The tenants upon such farms, are not found to be richer than those on improved estates, for as they rent the land at half the real value, they are content to exert but half their industry, and consequently jog on in an antediluvian stile. There is

no

no great danger of such estates being reduced in value by self-interested tenants, on which account leases are unnecessary for the landlord's sake, whilst their farms are considered as hereditary possessions, lineally descending from father to son. The trouble or difficulty of agency, under such gentlemen, is comparatively small. A superannuated domestic, may do their business as well as any other person. An advance of rent would give a spur to industry, by rousing the whole body of farmers into action.

Where an estate is let according to its fair value, a lease is as necessary to secure a landlord's interest in the premises as a tenant's. Where a farmer occupies land from year to year, particularly arable lands, if he is self-interested, indolent, or injudicious, a farm may almost imperceptibly become impoverished before any alarm is taken. Indeed such farms generally fall into the proprietor's hands in the most wretched condition. I have frequently heard gentlemen of landed property complain, that they are considerable losers by farming; and it may reasonably be accounted for, since the land usually comes into their hands in a reduced state, and in that case, let who will be occupier, two or three years rent must be sunk to restore it. *Rent is an annual sum paid by the tenant to the landlord, without diminishing the value of his property; and when the value of an estate is reduced, it cannot be called rent, but so much deducted from the real worth of the possession.* Proprietors of land, do not all of them consider this matter in a true light, and when they can advance the annual income of their estates, consider it as rent, whilst the property is suffering in an equal proportion to the annual sum received during the demise.

In the course of my experience, I have had applications from people to take farms consisting of arable and pasture, who have set out with a determination not to be bound by
what

what I conceived to be the rules of good husbandry, but to do as they pleased with the premises during the intended demise; I always refused to treat upon such terms, well knowing the value of the land must be reduced. But, when such matters have been represented to a principal, who was not a judge in these things, he considered such denial as foregoing his interest, by refusing what appeared to him to be a great rent.

There are particular situations where long leases are unnecessary and improper, especially when farms consist wholly of rich pasture land, which will admit of no improvement, or farms lying near to gentlemen's seats or parks, where a disagreeable neighbour, for a term of years, would be a great inconvenience. Where gentlemen forego their own interest, and that of the community, by not granting leases, by which it may possibly be imagined, such tenants would become independent of their landlords, they are guilty of a gross error, because when leases are properly drawn, it must always be highly to a tenant's prejudice to offend his landlord. Fortuitous circumstances ever produce some indulgence to be solicited from a landlord, even exacting rent on the days it becomes payable, would be an inconvenience, which many tenants could not bear. All farms should be let upon agreements, whether for one or twenty-one years, in a judicious manner, as near as possible for the mutual advantage of landlord and tenant, always preserving the value of the land at least. Wherever agreements or leases are not made with such views, or directed to such ends, it would be better, that no such leases or agreements subsisted. Though the value of the land would be likely to be diminished, yet abuses would not be so speciously practised, as when they are admitted by stipulated terms, reciprocally established between the proprietor and his tenant.

I cannot

I cannot take leave of this subject, without recommending to all gentlemen of landed property, as well as persons desirous of hiring farms, to be cautious that farmers do not take more land, than their circumstances will admit of stocking, improving, and managing, to the greatest advantage. Though the ill consequences attending such practices, both to landlord and tenant, are flagrant, yet they are but too frequent ; by which procedure, many very industrious farmers have been ruined, and many estates undeservedly brought into disrepute.

CONCLUSION.

It is now my design, to conclude these remarks, with some observations, which may not be unworthy the attention of every land-owner, who is desirous of promoting his interest, that of his tenantry, and the community at large; for such interests are compatible, and may be united upon every soil in the kingdom, if the application of it to its right use, is judiciously attended to, as a preliminary step. Let the conduct of those persons, into whose hands the regulating and managing landed property has been committed, be enquired into on the following grounds; viz. whether in the progress of their business as surveyors, or agents, they have considered the property which they have passed over, with a view to what particular purposes it might be most beneficially applied? viz. In duly appropriating arable to be made pasture, and pasture to be made arable, as shall be best adapted respectively to the soils, the interests of landlord, and tenant, and the local circumstances of the country. WHETHER all the advantages which might be derived from the land, are duly estimated? or, whether the practice has not rather been, *to consider the property as to remain in the unimproved state in which they find it*, than in suggesting the application of it to the most profitable modes of agriculture, which, upon similar soils, in the best cultivated parts of the kingdom, have been adopted with success? And should any doubt arise upon this head, it might be a means of drawing a conclusion upon it, from

an unerring source, if an examination were to be made, whether from the situation, education, and habits of life of persons so employed, there is any possibility of their being acquainted with improved practical husbandry? Should this suggestion appear to be confirmed, it will be the best of all possible excuses for their not introducing it.

To enumerate a few points for enquiry, viz.

HAs the making of water-meadows been adopted, or made an object of experiment or enquiry?

HAs the drill and horse-hoeing husbandry been recommended, or introduced, or even attempted to be introduced, upon such soils as are best adapted for the use of them?

HAs the application of oxen, in the cultivation of land, been attended to, or recommended, where practicable, instead of horses?

HAs the regular distribution of land, and the disposing of farm-houses, in the most central manner, been attended to, in letting inclosed farms, or in laying them out upon the inclosing, and dividing, of common-fields, commons, and waste lands?

HAs the small occupiers been protected, or have not small farms been laid to those already too large, thereby decreasing population in a country already possessing too few inhabitants?

IN the letting of farms, has due attention been paid to the making of proper conveniences for the most profitable means of occupying the property, and the enforcement of competent draining, fencing, and repairing the premises?

IN granting leases for any term of years, has it been an object, in any respect, to improve the inheritance of the

lands so leased, or even to stipulate how the incoming tenant, at the end of terms so granted, shall enter upon the respective apportionments of land, in the last year thereof, to keep up the routine of husbandry, (if any mode practised in this county can be so called,) and is not such incoming tenant usually kept out of the whole of the premises until the term is absolutely expired on the 5th of April, or May-day, which in unfavourable seasons, often tends to the loss of a year's crop of corn?

HAS paring and burning been restrained, as a measure highly detrimental upon all light, sandy, or mixed soils?

HAS it been an object to enforce, on the part of the tenantry, the preservation and improvement of timber, underwood, live fences, &c. &c.?

HAVE any stipulations been made with the tenantry upon pasture-land, over-run with ant-hills, rushes, and four unprofitable grass, to cleanse the same thereof, and afterwards to roll and manure it?

HAVE not rents been raised from time to time, upon occupations from year to year, without either surveyors or agents suggesting any restrictive covenants to improve or preserve the property, and by a general unqualified restriction from ploughing, preventing a single alteration, or improvement, of it? Proceedings, I will be bold to say, directly tending to stifle every symptom of spirit and improvement in the occupiers, who have, from such conduct towards them, just reason to apprehend, that whenever they shall shew any progress towards improvement, (in instances however confined,) the same unskilful conduct will be pursued towards them; and thus, by raising their rents, they will be made to pay a second time for such improvements

HAS

HAS not property in the up-land been constantly alienated, or let, without any searches into the substratums of soil? by which neglect the means of improvement, in marle, lime, &c. has been overlooked, and, in some instances, the most valuable part of the property has been sold, and conveyed, without an adequate consideration paid for it.

IS IT NOT the duty of every gentleman of landed property, to search for, and avail himself of, all the natural gifts with which his property is endowed?

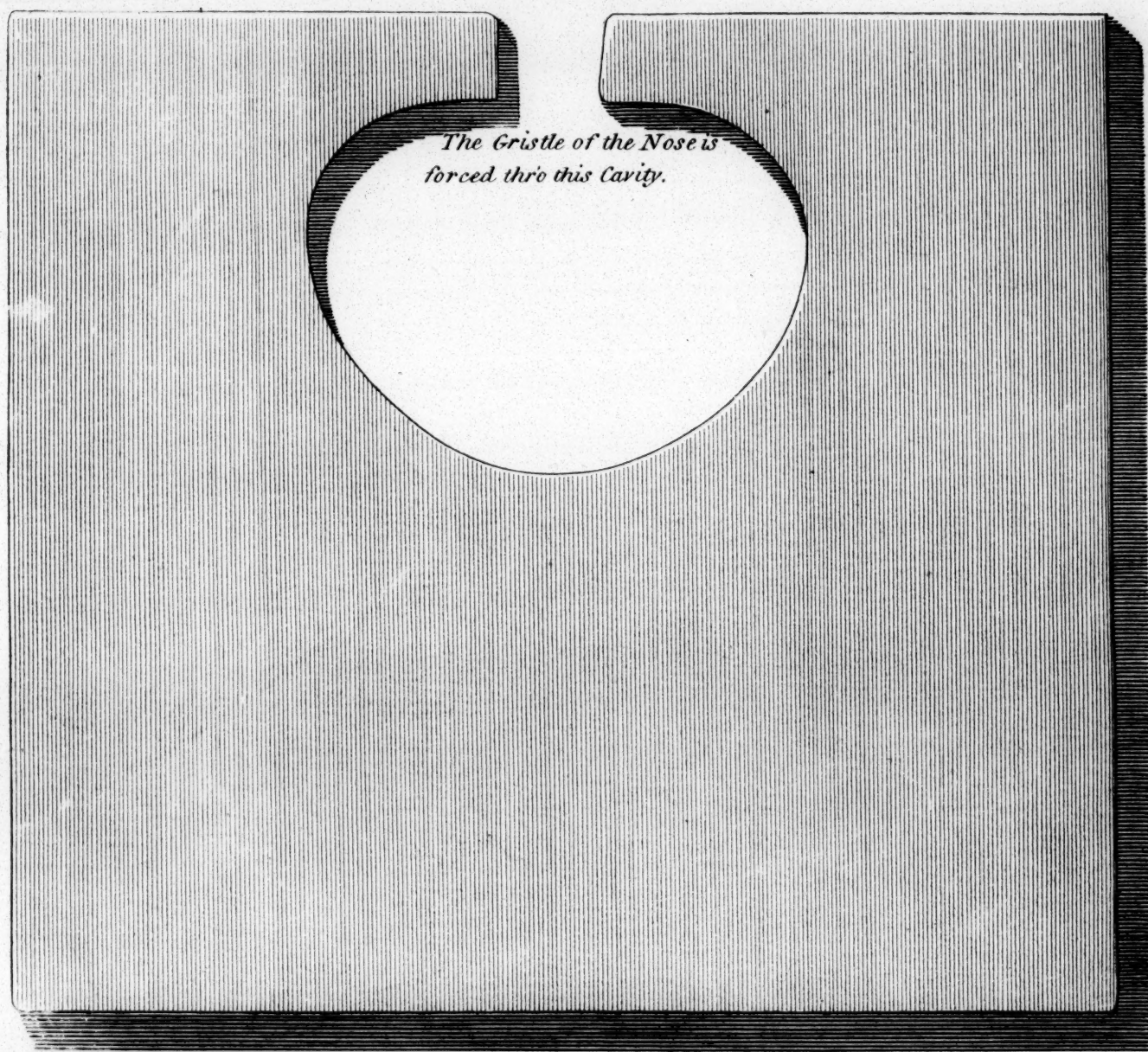
IS IT not every land-owner's duty to improve the agriculture upon his estate, that, for the benefit of the community, its produce may be made the most abundant it is capable of? Whether he takes a part of the improvement to himself, or allows the whole of it to his tenant, is no matter of public concern.

A SHIFT-

A SHIFTING MUZZLE.

THE common muzzle, which is generally used to prevent calves from sucking cows when they are intended to be weaned (page 22), is riveted full of sharp iron nails or spikes, about $2\frac{1}{2}$ inches long, but it is a very barbarous practice, and often becomes very injurious to the udders of the cows when the calves attempt to suck them, and by the operation of it, the calves are prevented from grazing; the shifting muzzle evidently appears to answer both intentions in a very superior degree; when the calf lifts up its head with an intention to suck the cow, its muzzle falls upon, and covers, its mouth; and, when it declines its head to graze, no impediment is occasioned by it.

A Shifting Muzzle.

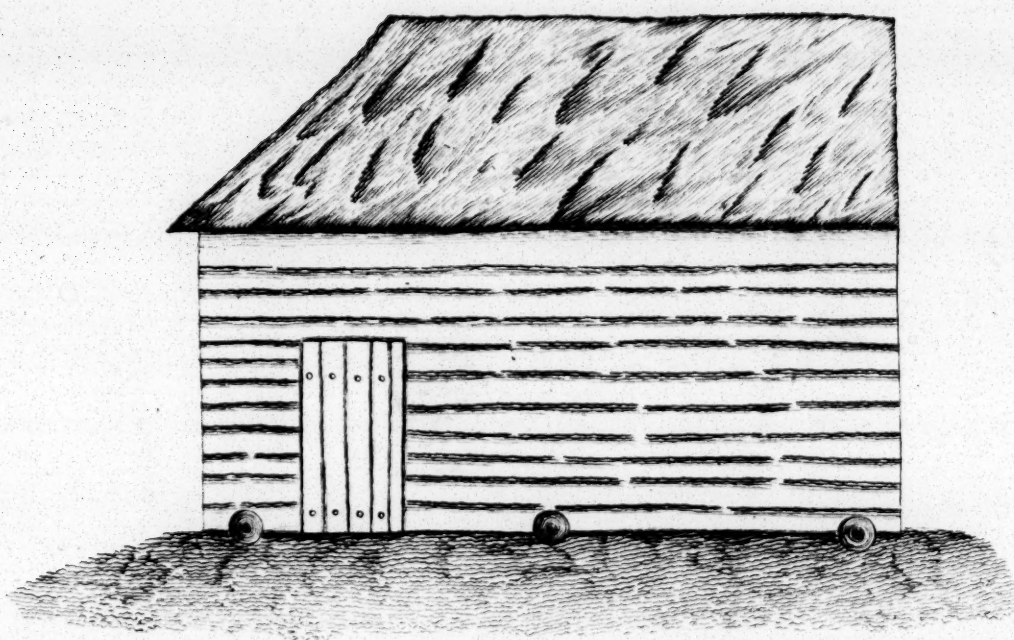


See Appendix to Mr. Stone's account of Lincolnshire.

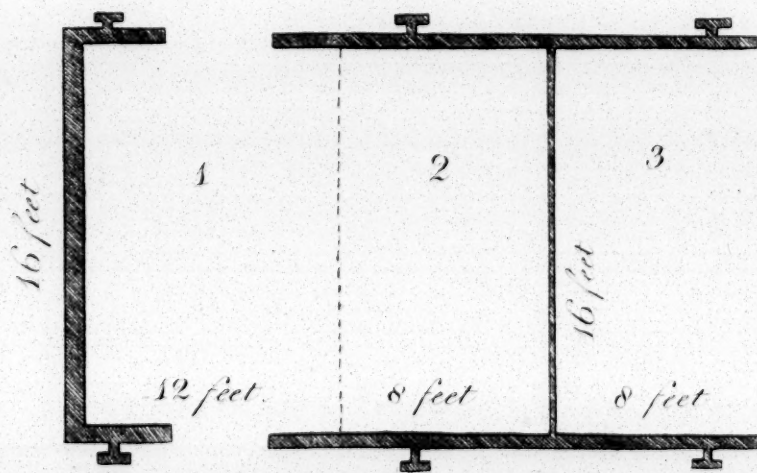




The Elevation



The Plan



SKETCH of HIS MAJESTY'S BARN at WINDSOR.

See M. Stone's account of Lincolnshire, p. 106.

A P P E N D I X.

Description of His MAJESTY's barn at WINDSOR, communicated to Mr. STONE, by Sir JOSEPH BANKS, Bart. P. R. S. as peculiarly calculated to be of use in Lincolnshire.

1. **T**HRESHING floor, 16 feet by 12 feet, boarded, 4 feet high, next the Repository-bay.
2. Repository-bay, 16 by 8, boarded quite to the top, next No. 3, except a pitching-hole, which secures the barn by a wicket.
3. Is another bay, 16 by 8, open at the end, with a view of clasping 8 feet of the long rick, which is supposed to join it, and to be of a little less scantling than the barn; this length of 8 feet is to be cut from the rick and thrown into No. 2, where it is secured, and so drawn on as fast as it can be cleaned on the inside.

The barn is to stand on six wheels of two feet diameter, three on each side.

As no carriage ever comes into the barn, to bruise the floor, deal answers the purpose, and there needs only a single door of 4 feet width on each side.

The height of the barn, from the floor to the wall-plate, is 12 feet.

The barn at Windsor is entirely with deal, and cost by contract, including all materials of wood, iron, and every thing but thatching

The covering, which is always best to be reed, reckoned at £1. 1s. a square, including the roofing, and containing 8 square, amounts to

£. s. d.

47 5 0

8 8 0

55 13 0

To render it more useful, by making it more easy, a wooden groove has been added, which may be considered equal to

7 7 0

Whole expence with a wooden groove £ 63 0 0

PART-

PARTICULARS OF THE SEVERAL SCANTLINGS.

The top plate 6 by 5.
 Bottom ditto 7 by 6.
 Floor joists 5 by $2\frac{3}{4}$.
 Under-bearers, principal post, 4 by 6.
 Quarters 4 by 3.
 Beams 6 by 5.
 Rafters 3 by 4.
 Purlins 3 by 2.
 Braces 3 by 2.
 Floor $1\frac{1}{4}$.
 Partition-boards $\frac{3}{4}$.

ERRATA.

Page 39, note, *nor turnips fed off*, read *properly fed off*.
 41, laid out or distributed, instead of laid down.
 51, Read *chapel*, not *chape*.
 55, lines 16, 17, comes round again to be sowed with
 wheat, not sowed with wheat and fallow.

